University News

WEEKLY JOURNAL OF HIGHER EDUCATION Vol. 41 No. 45 NOVEMBER 10-16, 2003 Rs. 12.00

Romesh Verma

Lifelong Learning Skills in the Twenty-first Century

P V Konnur and Shamprasad M Pujar

Statistical Information Resources for Social Scientists on the Internet

Sunil Behari Mohanty

Qualitative Improvement in Higher Education

(Part-II)

V S Ramamurthy

Science and Technology Education in the New Knowledge Era

–Convocation Address

TIET Convocation
Seminar on Mass Communication
Workshop on Internet and Applications
Extension Programmes at Barkatullah University

Association of Indian Universities

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE (BITS)

PILANI (RAJASTHAN) 333 031

http://www.bits-pilani.ac.in

BITS, PILANI-GOA CAMPUS

Advertisement No. FR/02/2003

BITS, Pilani is establishing a campus spread over 180 acres in Vasco, Goa to replicate most of its engineering and science degree programmes at Goa from the academic year 2004-2005. The entire educational process in Goa will be exactly same as that of BITS.

The Institute is looking for highly qualified and motivated faculty in the disciplines and positions mentioned below for the GOA Campus:

Electrical & Electronics, Mechanical, Computer Science, Management, Biology, Chemistry, Chemical, Mathematics, Physics, English.

Position	Grade
Professor	16400-450-20900-500-22400
Associate Professor	16400-450-20900
Assistant Professor	12000-420-18300
Lecturer	8000-275-13500

For all faculty positions, candidates must possess Ph.D. in the respective discipline and/or must have long experience and evidence of accomplished research. Selected candidates will be placed in one of the above mentioned positions depending upon their qualifications and experience.

D.A. of the Institute is through a D.A. slab scheme which *guarantees at least 65% of the basic pay. Contributory* provident fund @ 12% on the total emoluments is provided. The Institute provides residential accommodation, LTC, contingency expenses for professional work, Medical reimbursement and Gratuity. Benefits of Pension Scheme & Group Insurance are also provided.

Application format is available on our website **http://www.bits-pilani.ac.in** Interested candi-dates may submit their bio-data in the prescribed format **on-line**. A copy alongwith xerox of transcripts, degree certificates, etc. should be independently sent by post to the **Deputy Director (Academic), BITS, Pilani - 333031 (Rajasthan)** *latest by* **December 15, 2003.**

Pilani

November 1, 2003 **Registrar**

TATA INSTITUTE OF SOCIAL SCIENCES

(A Deemed University)

[illegible]

No.Admn/Advt/2003 14th October 2003

(Detailed advertisement and the Application Form can be accessed on TISS Website www.tiss.edu)

TISS invites applications for filling up the following vacant posts from candidates possessing qualifications and experience as per the stipulations of the University Grants Commission, to reach the Assistant Registrar (Personnel), TISS, Deonar, Mumbai 400 088, by 12-12-2003.

I Two posts of Professor – (1) One post in the Department of Research Methodology; (2) One post in the Department of Urban and Rural Community Development, **II Nine posts of Reader** – (1) Two posts in the Department of Personnel Management and Industrial Relations; (2) Two posts in the Department of Family and Child Welfare, (3) One post in the Department Health Services Studies, (4) One post in the Unit for Rural Studies, (5) One post in the Unit for Labour Studies, (6) Two posts at the Rural Campus, Tuljapur, Osmanabad District, Maharashtra, **III Nine posts of Lecturer** – (1) Two posts in the Department of Urban and Rural Community Development, (2) Three posts in the Department of Social Welfare Administration (one reserved for Scheduled Caste); (3) One post in the Department of Extra Mural Studies, (4) One post in the Unit for Rural Studies; (5) Two posts at the Rural Campus, Tuljapur, Osmanabad District, Maharashtra (one reserved for differently able person – Visually Handicapped), and **IV One post of Systems Manager.**

For further details please see **The Employment News** dated 8-11-2003. The prescribed application form, along with the Detailed Information Sheet can be obtained from the Assistant Registrar (Personnel) on payment of Rs.200 for Professor, Rs.150/- for Reader and Systems Manager and Rs.100/- for Lecturer (for SC/ST candidates, application forms will be supplied free of cost on production of valid caste certificate), either at the Cash Counter, TISS, Mumbai, or by sending a Demand Draft drawn in favour of **Tata Institute of Social Sciences, Mumbai,** for the requisite amount accompanied by a self-addressed stamped envelope (worth Rs.25/-) of size 30 cm x 12 cm.

Dr. S.K. Bandyopadhyay

Registrar

UNIVERSITY NEWS

Vol. 41 November 10-16
No. 45 2003
Price Rs. 12.00

A Weekly Journal of Higher Education Published by the Association of Indian Universities

IN THIS ISSUE

Lifelong Learning Skills in the Twenty-first Century 1
Statistical Information Resources for Social Scientists on the Internet 5
Qualitative Improvement in Higher Education (Part-II) 10
Convocation
Vellore Institute of Technology, Vellore 19
Campus News
Seminar on Mass Communication 21
TIET Convocation 22
National Conference on Internationalization of Higher Education 23
AIU News
AIU Initiatives for Promotion of Sports in Universities 26
Theses of the Month 27
Classified Advertisement 35

Opinions expressed in the articles are those of the contributors and do not necessarily reflect the policies of the Association

Editorial Committee Chairman:
Prof. Dayanand Dongaonkar
Editorial Committee :
Dr M Goswamy
Mr Sampson David
Dr Sistla Rama Devi Pani
Mr James C
Editor :
Dr Sistla Rama Devi Pani

Lifelong Learning Skills in the Twenty-first Century

Romesh Verma
(DDE, University of Jammu-180 006, J&K State; romeshv@yahoo.com)

The need of the information society coupled with the technology advancement created necessary conditions to explore alternatives for lifelong learning. Because knowledge is doubled in every seven years and the shelf life of degrees is shrinking rapidly, thereby indicating that a worker is supposed to acquire new knowledge and skills much efficiently, more promptly and most accurately, to prove him/herself most productive workman. Latest advancements in different fields of knowledge and technology have also facilitated the liberalization of economic policies, privatization and globalization. As a result, the industry is motivated for: quality upgradation, emergence of collaborations and joint ventures, rigorous training programmes, downsizing of workforce, improving work environment and professional management forcing a worker to be lifelong learner for updating the knowledge and skills.

The knowledge revolution in information society has aggravated multifold competition creating conditions in which a worker is expected to articulate high performance at workplace pressing him / her constantly to be creative and adaptive. Francis Bacon is of the view that the power involves the use of force, wealth and knowledge. A learner in today's world is aware of the fact that knowledge itself is a power. He, however, did not emphasize the crucial links of knowledge with other sources of power in the society. It is because the changes have links that Alvin Toffler speaks of as power shift: the remarkable extent to which both force and wealth have come to depend on knowledge. Not very long ago, even military power was basically an extension of the mindless 'first'. Today, it relies almost totally on 'congealed mind', the elements of which incorporate technologies, logic and epistemology - in short work of human brain. In a parallel development it is being increasingly realized that wealth is also dependent to a large extent on brainpower or knowledge. Today's advanced economics cannot run for 30 seconds without computers. The new modalities of production, the integration of vastly divergent and constantly evolving technologies and the progressive de-materialization of markets indicate the increased amount and quality of information needed today to make possible higher production of wealth. Therefore, today's learner is convinced that knowledge, information and communication skills are the key to all forms of power and s/he has to cultivate lifelong learning attitude to survive and make progress in a global society.

The emerging trend of World Trade Organization cheering multinational companies to make cross country investments has made openings for the individuals to work in different cultural contexts and thus a worker need to adapt himself to new cultures and adapt or evolve appropriate policies, procedures and practices. To be successful a multinational worker one needs to develop adaptability to work in different work cultures, ability to seek co-operation and develop co-ordination among different professionals to execute programmers. In such situation, the success of a worker demands professional, personal competencies and a healthy attitude towards lifelong learning.

Conceptual Framework

Longworth and Davies, (1996) relates, "the development of human potential through a continuously supportive process which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will require throughout their lifetimes and to apply them with confidence, creativity and enjoyment in all roles, circumstances, and environments". The concept of lifelong learning makes the learner to canalize, focus energies to develop an attitude to learn persistently throughout life. The concept of Lifelong should not be confused with continuing education where the professionals are engaged to undertake learning and orientation after they have completed their formal training. The onus of learning is on the worker who should be motivated continuously and enable him/her to apply what s/he has learnt in varying circumstances.

World Education Report (1998) points out that the young generation is entering a world which is changing in all spheres; scientific, technical, political, economic, social and industry. In this changing world, the learners have to orient themselves to play a crucial role in preparing themselves not only to face the knowledge-based society with confidence but with purpose and responsibility. The people in the world of work have to keep pace with the knowledge explosion, technological advancements, increasing trends towards interdisciplinary approach to acquire knowledge and skills on continuous basis. For instance, advancements in the field of communication and information technologies have a significant effect on the industrial processes and structures. The effect is quite visible in the form of paperless offices, the use of computers, enterprises recourse planning, CAD / CAM / Flexible Manufacturing Systems, Use of Robotics etc. It is apparent that workforce in the 21 Century has to be equipped with the knowledge and different types of skills.

Skills for Lifelong Learning

American Society for Training and Development in a survey (1999) on lifelong learning skills identified a set of seven skills expected of the future workforce. These includes; learning how to learn, reading, writing and computing; communication skills; adaptability skills (managing personal and professional growth), group effectiveness skills (interpersonal, team work and negotiation skills); and influencing skills (organizational effectiveness and leadership skills).

Bennet et al. (2000) reports learner of the 21st Century will be required to develop three types of skills viz., generic skills, employment related skills and soft skills (i.e. personal transferable skills, core skills, key skills, and soft skills).

Anderson and Marshall in a study report that a learner of the 21st Century requires six essential skills for employability. The skills identified are: (reading, writing, numeracy, oral communication and personal traits including honesty and reliability); occupation specific skills needed for individual effectiveness in the job (e.g. book keeping or welding, generic skills-communication, problem solving, application of number and reasoning skills, motivation and leadership) and at stage three over-reaching capabilities for maximizing organizational performance-system thinking which include team working, self management, business thinking and customer orientation.

A study by Longworth (1996) advocates me inculcation of the skills among the lifelong learners such as: Life skills-decision making, problem solving, entrepreneurial skills. self-esteem and self-management, empathy and tolerance for others, Creativity-a sense of humor, flexibility, adaptability, versatile; critical judgment; thinking, vision planning; practical skills; learning to learn; discussing-communicating formally; and information handling.

Standard Board of Singapore identifies seven core skills to be developed among the lifelong learners such as: learning to learn, literacy, listening and oral communication, problem-solving and creativity, personal effectiveness, group effectiveness, organizational effectiveness and leadership. The study further points out that these skills make the learner to learn: how to learn, to apply what they have learnt at work, to analyze and solve problems, to optimize their potential and abilities, to communicate/inter relate with colleagues and to lead and motivate others.

Comparative analysis of different sets of lifelong learning skills makes us to understand that a learner in the 21st the Century requires to develop professional competencies. Jars defines the term competence as the quality or the state of being functionally adequate or having sufficient knowledge, judgment, skill or strength as for a particular duty or in a particular respect. Further analysis of the term competence involves the knowledge and understanding of the academic discipline, skills i.e. the ability to perform the various psychomotor tasks and interact with others. *Attitudes comprise the emotive commitment to* professionalism and the willingness to perform professionally. Competence has also been defined in terms of professional and personal competencies. Professional competencies of a lifelong learner comprise skills and knowledge in the area of information resources, access, technology, management research and the abilities to use these competencies as a basis for lifelong learning. On the contrary, personal competencies comprise skills, attitudes and values which enables a lifelong learner to provide valued and valuable service, communicate well, survive in the new world of information and focus on lifelong learning throughout the life. Thus, personal competencies that comprise the inculcation of more generic skills of various kinds are required for a professional to perform efficiently. Precisely, the study on the required skills of a knowledge worker in Twenty-first Century reveals that a knowledge worker in information society needs to inculcate professional competencies of two types, viz. generic and specific. The generic competencies refer to those, which are common to various functions, positions, work-settings etc. Competencies particular to different functions, positions and work-settings are called specific competencies. Specific competencies could be formulated for a lifelong learner working in non-traditional work-settings.

Developing Lifelong Learning Skills

Lifelong learning skills can be developed in the learners both through conventional and non-conventional modes of education by developing *formal and informal curriculum. The formal* curriculum refers to the instructional activities a learner experience during lectures, tutorials and labs while the informal curriculum refers to the extra curricular activities which refers to leadership skills and whole range of other life skills such as: decision making, problem solving, critical and creative thinking, seeking for information, planning etc. Studies reveal that it is difficult to develop life-skills among lifelong learners through informal curriculum.

In other words, both conventional and non-conventional modes of learning can be used to develop lifelong learning skills but for that purpose formal curriculum is essential. Irrespective of modes of learning we require to develop curricula to inculcate *the following lifelong learning skills:*

- Skill of Linking for Learning,
- Collaborative Workmanship,
- Understanding Learning Process,
- Learning to Construct Intellectual Questions,
- Developing Creative Flexible Approach to Learn,
- Effective Learner-Tutor interaction,
- Effective Learner-Learner interaction; and,
- Critical Awareness.

Strategies for Developing Lifelong learning Skills

The significance of developing effective strategy to cultivate conducive learning environment for the learner to be a life long learner is imperative. Experts in the field have proposed number of strategies to facilitate the knowledge worker to be a lifelong learner. However, the following strategies can be tried upon:

- Identification of lifelong learning skills.
- Train teachers to develop and assess lifelong learning skills,
- Labeling the components of lifelong learning skills
- Sequencing the components of lifelong learning skills for practice,
- Assessment of the components of lifelong learning skills,
- Providing flexibility in the courses for practising lifelong learning skills,

- Strengthening in-service training and practical work; and,
- Encouraging Learner's involvement.

Identification of Lifelong Learning Skills: An attempt needs to be made to identify lifelong learning skills of the knowledge worker in the Twenty-first Century to perform speedily, intelligently, efficiently and effectively in the work place. The process of identification of lifelong learning skills required to be inculcated among the learner of a knowledge society can be made on the basis of: direct observations of the specialists in the field, interviews with the learners, the employers, and by critical incidental technique etc.

Train Teachers to develop and assess Lifelong Learning Skills: Seng is of the view that teachers of the 21st Century needs to have clear understanding of the objectives of training in the five disciplines namely; personal mastery, mental models, shared vision, team learning and system thinking to inculcate and assess the lifelong learning skills. Tulsi (2003) advocates that for the development of generic skills and their assessment among the pass-outs, an interaction with the employers, industry needs to be organized on continuous basis to design programmes of teacher training.

Labeling the Components of Lifelong Learning Skills: On the identification of different lifelong learning skills the teacher educator is supposed to spell out various components of each skill. The analysis of each component of lifelong learning skills guides a trainer to understand the situations best suited to train and assess the quality of skill performed by a learner.

Sequencing the Components of Lifelong Learning Skills for Practice: The process of sequencing the components of a particular skill enables the learner to understand the practical application of each skill in different setup of situations. The practice of sequencing of different components of lifelong learning skill helps to further understand the relationship of different skills and their application in day-to-day life.

Assessment of the Components of Lifelong Learning Skills: Appropriate techniques to assess lifelong learning skills enable us to understand the thinking, feeling, behaving processes of a learner. Most popular methods of assessment of lifelong learning skills is made through the techniques namely; self-assessment, peer assessment and portfolio assessment.

Providing Flexibility in the Course for practicing Lifelong Learning Skills: Developing lifelong learning skills among the learners is a continuous process which require learning in different pursuits of knowledge. For the purpose a learner is supposed to learn at his / her own pace. Therefore, to inculcate lifelong learning skills among the learners of information society, it is imperative to adopt *flexibility in the course meaning thereby* that the adoption of open and distance mode will be most suitable for the learner of the Twenty-first Century.

Strengthening In-Service Training and Practical Work: Learner in the information age requires having in-service training programmes under the supervision of area experts/industrial resource person who should assess the required skills of the worker during the service. The need of the time demands that during service an alternative arrangements to be made to update the worker's personaa, professional and special skills which further indicates the role of open and distance education to be a lifelong learner.

Encouraging Learner's Involvement: Learner's involvement in various management committees of the institutes and industry gives an insight of the skills and abilities required among the workers in near future. The development of insight into the required skills/competencies directly motivates the learners to make necessary efforts to become productive workforce by inculcating lifelong learning potentialities for the furtherance of mankind.

References

1. Longworth N. and Davies W.K. (1996). *Life Long Learning New Vision, New Implications, New Roles for people, organizations, nations, and communities in the 21st Century*, Kogan Page publishing.
2. UNESCO 'World Education Report (1998). *Teacher and Training in Changing World*' Paris. UNESCO.
3. Bennet, N., Elisabeth and Carrem, C. (2000). *Skill Development in Higher education and Employment*', Buckingham; SHRE and Open University Press.
4. Tulsi, PK., (2003). Development of Generic Skills Among Students: An Emerging Trend, *The Journal of Engineering Education*, Vol. XVI, No. 3, Jan. 2003, Pune.

Statistical Information Resources for Social Scientists on the Internet

P V Konnur
(Goa University Library, Goa - 403 206. pv_konnur@yahoo.com)

and

Shamprasad M Pujar
(Indira Gandhi Institute of Development Research, Gen Vaidya Marg, Goregaon (East), Mumbai-400065. pujar@igidr.ac.in)

Statistical sources play pivotal role in social science research. All kinds of research in social sciences is based on statistics gathered from different sources. The sources of statistics in most cases originate from different government agencies and institutes. Which form base model for any kind of policy decisions of government or an organization. For example census information is very crucial for any government to know its population and to take policy decisions. Earlier most of these sources used to be available in print form and in few cases in electronic form through diskettes and CD-ROMs. But now due to the advent of internet many of these sources are available on the internet. These data sources can be searched and downloaded based on ones information requirements. All the data sources available on the net do not necessarily come for free and also data provided for free of cost in many cases does not cover in depth statistics.

Resources

The data sources on the Internet comprise mostly of western countries. However developing countries like India have also made their mark on the Internet by making available their data on census, budget, economic survey, banking etc. on the net. The data sources on the net basically include data sources on census, export and imports, social and economic data, geographical etc. Data sources available on the net have been classifed as India and International in order to make researchers aware about Indian sources of information.

India

Census Information (http://www.censusindia.net)

The Office of the Registrar General of Census operations has developed Censusindia.net site. It gives extensive information about Census of India. Here one can find information about statistics of All India population totals as per the Census 1991, India and State maps, Publications list, data products, addresses of state Census Directorates, information about Census 2001 etc. It also gives a population clock, which shows how fast the India's population is growing up. Now as we all know it has crossed a billion mark.

Population Commission set up by Government of India is also available on the net, which gives latest information about government policy towards population control, statistics etc. The site URL is http://populationcommission.nic.in

Crisil.com (http://www.crisil.com)

Credit Rating Information Services of India Ltd. (CRISIL) is India's premier credit rating agency. This site provides information related to quarterly results of companies, credit ratings, budget analysis, stock exchanges indices, company profiles, Disinvestments reports etc. To get full access to its resources, one has to register for the service. Registration is free.

Department of Statistics (http://mospi.nic.in)

Department of Statistics of Government of India works under Ministry of Planning and Programme Implementation. This department is responsible for bringing out almost all statistical information of Government of India through its agencies Central Statistical Organization (CSO) and National Sample Survey Organization (NSSO). CSO brings out statistics related to India's National Accounts statistics, energy statistics, index of industrial production, consumer price index, annual survey of industries, economic census, social statistics etc. On the site broad statistics on above aspects is available. To have detailed information on these aspects one has depend upon their publications, which are nominally priced. NSSO brings out statistical information about sample surveys on consumer expenditure, live stock, employment etc. In this case also only broad statistical information is available, but for detailed statistics one has to depend upon their printed or electronic data sources.

Research Foundation (http://www.epwrf.res.in)

Economic and Political Weekly Research Foundation has recently undertaken database project sponsored by IGIDR and ICICI. As a part of this project EPWRF is providing access to different data sources from its database. The data is available in MS-Excel format. Even though few data series are priced still much data is available for download. Still the site is in its development stage. The data series available are banking statistics, national account statistics, central government finance, etc.

Economywatch.com (http://www.economywatch.com)

Economywatch.com is a commercial site that provides information and data on Indian economy. Right now the data covered on this site is available for free of cost to all i.e. registered as well as for non registered users. As per the information on the site, all kinds of information in future will be available only to the registered members. The data type available on this site include statistics related to national income, foreign investment, agriculture, industry, money and banking, balance of payments, population etc.

EcoTrack: Economy Databases
(http://www.etintelligence.com/ETRB/ecotrack/ecotrackmag/ecotrackecodatabase.htm)

EcoTrack is an Economic Times economy magazine, which provides data on various aspects of Indian economy. The data is available in .pdf format at no cost. The data types available on the site include whole sale price indexes, balance of payments, banking statistics, commodity price indexes, etc.

Export-Import Data Bank
(http://http://164.100.9.245/eidb/)

This database is developed by Ministry of Commerce, in association with NIC. It provides time series data on exports and imports of India. The data covered in this database is from 1996-97 to 2001-2002. Data for both Exports and Imports is available Country-wise and Commodity-wise.

GISTNIC (http://gist.ap.nic.in)

General Information Service Terminal National Informatics Centre (GISTNIC) has geared up to the challenge of collecting data and moulding the same into information useful to the public and the researcher as well. It began as a small project of NIC, has now taken a big leap and with over 3,000 million bytes of information put into GISTNIC and with 50 million bytes being cumulatively added/updated every month. GISTNIC is designed with an objective to make available general information to public about India, important national and international information, infrasturctural and recreational facilities and other static and near static information through a query system.

The Content and scope of information provided in GISTNIC spans a very wide range of potential users such as farmers, tourists, students, researchers, Government officials and foreigners. Information can be derived from a number of large databases being created and maintained upon NICNET. The information on database includes banking statistics, industrial statistics, public finance, social sector statistics, census data etc.

In addition, GISTNIC has a large amount of published and open information on a number of important events, developments in India or in Indian Economy and changes, which are noteworthy and will be useful for everyone, either for the general knowledge reference or for the utilisation in the planning processes. The retrieval of the required information is user friendly, menu driven and key word based. It is available throughout the country at any NICNET/internet outlet.

The service is free and information from databases can be accessed by signing up for the service. Indiastat.com (http://www.indiastat.com)

It is also a commercial site, provides data to users only for price. The data covered on this site is specifically on Indian economy. It gives statistical information on industry, agriculture, national income, population, foreign investment etc. The access is restricted only to registered members; others can access only brief information.

Mapsofindia.com (http://www.mapsofindia.com)

Provides all kinds of maps related to India and its states, transport network, geological, mineral and population maps, etc. Facility to print maps or send them across e-mail is provided on the site. There is also a search facility on the site to search for distance between cities, pin code numbers etc. Access to information is free of cost.

Ministry of Finance, Government of India
(http://finmin.nic.in)

Ministry of Finance is an important source of information to know about details of union budget and economic survey. These two sources contain statistics concerned to India's GDP, industrial growth rate, agriculture output etc, which is very crucial for researchers from the area of economics. The site provides access to budget documents and economic survey w.e.f. 1996-97.

It also provides links to the sites of Comptroller and Auditor General of India, Securities and Exchange Board of India, etc. Where in one can find information related to India's finance and appropriation accounts and capital market. The site URLs are: http://cga.nic.in and http://www.sebi.gov.in

Reserve Bank of India (http://www.rbi.org.in)

The Reserve Bank of India (RBI) provides online access to vast amount of data related to banks and banking in India. Most of the resources are available for download at free of cost. The data sources available for download include its Weekly statistical supplements, Monthly bulletin, Occasional papers, Key banking statistics etc. The data provided by RBI is very important for researchers working in the areas of banks and banking, development policy, capital markets etc.

Other Sources (http:/goidirectory.nic.in)

There are also a few government ministries and departments like commerce, external affairs, labour, health etc, their sites also hold good amount of brief data related to their fields.

International

Asian Development Bank (http://www.adb.org/Economics/)

ADB gives access to social and economic data of its developing member countries. The type of data includes national accounts, financial accounts, trade, population, labour and employment etc. The data sets can be viewed and downloaded by using Microsoft Excel and Adobe Acrobat.

Demographic and Health Surveys
(http://www.measuredhs.com)

Demographic and Health Surveys (DHS) datasets are available for most countries from this Web site. The datasets include individual women's data, household data, men and husband's data, couple's data, children data and service availability/facility. The data and other information are available in zip files. Data is available for download free of cost for researchers, who apply for download accounts. The download accounts will be granted to researchers within 24 hours of applying.

Eurostat (http://europa.eu.int/comm/eurostat/)

Provides latest and the most complete statistical information on the EU and the zero-zone. The topics include general statistics, economy and finance, population and social conditions, industry, trade and services, agriculture and fisheries, external trade, transport, environment and energy and research and development. Only the key indicators are available for free of cost, for detailed statistics one has to pay for the services.

FAOStat (http://apps.fao.org/)

FAOSTAT is an online and multilingual database currently containing over one million time-series records covering international statistics in the areas of production, trade, food balance sheets, fertilizer and pesticides, land use and irrigation, forest products, fishery products, population, agricultural machinery and food aid shipments. At a time, maximum 1000 records on any topic of different combinations can be downloaded from their site. Subscribers can download data up to 10000 records at a time and they also get unlimited access to FTP bulk download files.

Glossary of Selected Social Science Data and Computer terms (http://odwin.ucsd.edu/glossary/)

This glossary includes terms which one may find useful in managing data collections and providing basic data services. It does not attempt to cover all social science research terms or all computer terms. Because some data libraries will still have to deal with magnetic tape, the glossary includes some terms related to storing data on tape.

Global Financial Data
(http://www.globalfindata.com)

Global Financial Data provide long term and current financial data on over 150 different countries. Its service allows access to raw data as well as the ability to graph and analyze data series using comprehensive analysis tools. The data from its databases can be downloaded at a cost, which ranges between US $ 25.00 to US $ 50.00 on any particular series. At present it holds around 5,000 data files.

Indian District Database
(http://www.bsos.umd.edu/socy/vannenian/districts/index.html)

The Indian district database combines district-level data from census and agricultural sources between 1961 to 1991. The data is available in SAS format. This database is maintained by University of Maryland.

InfoNation (http://www.un.org/Pubs/CyberSchoolBus/infonation/ einfonation.htm)

InfoNation is an easy-to-use, two-step database that allows you to view and compare the most up-to-date statistical data for the Member States of the United Nations. One can also dynamically generate graphs using numeric data.

International Data Base (IDB)
(http://www.census.gov/ipc/www/idbnew.html)

The International Database (IDE) is a computerized data bank containing statistical tables of demographic and socioeconomic data for 227 countries and areas of the world. The major types of data available on IDE include population by age and sex, vital rates, infant mortality, and life tables, fertility and child survivorship, migration, marital status, family planning, employment etc.

International Labour Office (http://www.ilo.org/public/english/bureau/stat/info/dbases.htm)

LABORSTA, an ILO database on labour statistics covering economically active population (data since 1945) employment, unemployment, hours of work, wages, labour cost, consumer prices, occupational injuries, occupational accidents, and strikes and lockouts (data since 1969) of different countries of the world. The database can be accessed and small amount of data can also be downloaded free of cost. Fore more data and different methods of analysis ILO charges users a nominal price based on type of data and analysis. It also gives access to one more database, which contain data on 'Economically Active Population, 1950-2010 of different countries of the world.

NBER Data (http://www.nber.org/datajndex.html)

National Bureau of Economic Research (NBER) contains data sources related to trade, population, macroeconomic aggregates, labour, taxation etc. These are basically derived from their own sources based on the research conducted by NBER. The data can be downloaded at free of cost.

Social Science Information Gateway (SOSIG)
(http://www.sosig.ac.uk)

The Social Science Information Gateway (SOSIG) aims to provide a trusted source of selected, high quality Internet information for researchers and practitioners in the social sciences, business and law. Its catalogue includes lot of data archives both priced and unpriced, which are very useful for researchers.

Statbase (http://www.statistics.gov.uk/statbase/tsdintro.asp)

Many data sets may be downloaded. StatBase has been set up to provide access to a comprehensive set of key statistics drawn from the whole range of official United Kingdom government data sets. Topics covered include population, income, balance of payments, birth and death rates, consumer expenditure, marriage and divorce rates, economic activity, employment and unemployment, education and training, road accidents, household income and expenditure, gross domestic product, housing, livestock, labour market, international migration, criminal offences, national lottery, recycling of waste, atmospheric and water pollution, drug seizures, and various other social statistics.

United Nations (http://www.un.org/databases/index.html)

United Nations provides data on different countries. Its data sources include social indicators, population statistics, and monthly bulletin of statistics. It also provides information about international treaties. All the data sources are in public domain, which can be accessed at no cost.

UNESCO (http://unescostat.unesco.org/en/stats/stats0.htm)

United Nations Educational, Scientific and Cultural Organization (UNESCO) site gives access to its data sources on education, literacy, science and technology and culture and communication of different countries of the world. Data is available for download at no cost.

USA and Canada Trade Data Online
(http://strategis.ic.gc.ca/sc_mrkti/tdst/engdoc/tr_homep.html)

Trade Data Online provides the ability to generate customized reports on Canada's and US' trade with over 200 countries. Data is available for download. The data types include imports, exports, trade balances by product and industry. The search facility is available on the site.

World Bank (http://www.worldbank.org/data/)

World Bank provides national statistics for countries and regions and country profiles of all its member countries pertaining to the aspects of agriculture, education, environment, finance, health, population, urban and social development etc. These are derived from its publication 'World Development Indicators'. The time series data is available in table form.

World Crime Statistics (http://www.uncjin.org/Statistics/statistics.html)

United Nations World Crime Surveys of Crime Trends and Criminal Justice data sets are available from this site. Data is available in ASCII, Lotus 123, and SPSS formats.

World Health Organization (http://www.who.int/whosis/)

The WHO has a statistical system called 'Whosis'. The data types can be accessed from their databases are on mortality, basic health indicators, HIV/AIDS, statistical data from world health report, population etc. A search engine has been provided for easy retrieval of data from 'Whosis' and also from other data sources.

Trade Organization (http://www.wto.org/english/res_e/statis_e/statis_e.htm)

WTO provides online access to many of its data sources, which include international trade statistics, annual reports and trade policy reviews. All these are available for download.

World Tourism Organization (http://www.world-tourism.org/main/frameset/frame_statistics.html)

WTO Database covers statistics on international outbound tourism, international inbound tourism, and tourism indicators covering a wide variety of tourism trends. The data includes tourist arrivals (overnight visitors), cruise passenger arrivals, arrivals by air arrivals by rail, arrivals by road, arrivals by sea, arrivals for recreation, leisure and holidays, arrivals for business etc. The data is free for WTO member countries and for others it is chargeable at nominal rates.

Data Sources Collections

Following are a few sites, which have indexed innumerable number of data sources useful for social scientists.

- Social science data archives on the net (http://www.ifdo.org/)
- Social science data on the net, University California, San Diego (http://odwin.ucsd.edu/idata/)
- Yale Social Science Data Archive (http://statlab.stat.yale.edu/SSDA/ssda.html)
- Selected Internet Resources for Statistics in the Social Sciences (http://www.library.uiuc.edu/edx/webstats.htm)
- Sociosite: Social Science Data Archives (http://www.pscw.uva.nl/sociosite/databases.html)
- Statistical Resources on the Web: Economics (http://www.lib.umich.edu/libhome/Documents.center/stecon.html)
- Internet Crossroads in the Social Sciences: Data (http://dpls.dacc.wisc.edu/internet.html)
- Social Science Data Archives (http://sobek.colorado.edu/SOC/RES/data.html)
- International Business Resources on WWW: Statistical Data Sources (http://ciber.bus.msu.edu/busres/Static/Statistical-Data-Sources.htm)
- Social Science Directories and Data Archives (http://www.clas.ufl.edu/users/gthursby/socsci/directs.htm)
- Scout report for Social Sciences and Humanities (http://scout.cs.wisc.edu/report/socsci/current/index.html)

Conclusion

An attempt has been made here to collect as many sources as possible. This is not a comprehensive list of statistical resources; many more can be explored from the Internet. It is not possible to list out all the resources available on the net in one paper. Statistics is a backbone of any research presentations. In social science researches it is necessary to use statistical presentations to justify the research results. Hence a continued effort has to be made to bring all the possible statistical information resources to the notice of the social scientists. This is a small effort in this direction. ❑

Qualitative Improvement in Higher Education (Part-II)*

Sunil Behari Mohanty

(Department of Education, Government College, Sundargarh-770 002. sunilmohanty@hotmail.com)

Improving the Process of Granting Autonomy

The concept of giving autonomy to a few colleges has been questioned by certain academics. "There is no such thing as an 'autonomous college', because that is what all colleges are everywhere, except in this subcontinent" (Adiseshiah 1987, P.4). In the process of giving autonomy and accompanied freedom to all colleges, some colleges may fall by the way side and wither away. "They should be allowed to do so, but the rest will be free, creatively free". If the universities allow continuous internal evaluation, every college affiliated to the university needs to be autonomous. As per this strategy, every college needs to be free. The scheme legitimizes the growing neglect of the university (Bhatia 1993). As the qualities expected from autonomous colleges are also expected from every college, the Scheme may be abolished. Again, the current process of granting autonomy, in certain cases, has raised eye brow of academic community. For instance, autonomy was given to a college, in the year, when there was rampant malpractice. Academicians construed the granting of autonomy to the college as an effort of the university to get rid of the undesirable college. In the said college, a few years ago, it was observed that in case of three PG departments there was one examiner for evaluating two papers. A discussion was made in the Academic Council meeting on this issue. The principal declared about formation of a committee that would have gone into the issue of appointing nonqualified examiners. The next academic council meeting realised that the principal had gladly forgotten about issuing a notice for the committee formation. The minutes of the last meeting read on that day did not mention about such a discussion. Again, UGC team for autonomy rarely makes physical verification of data. There need not be any special team for inspection for sanction of autonomy. Autonomy to a college or to a department in a college or university should be linked with NAAC assessment.

Linking NAAC Assessment with Sanction of Autonomy to Colleges and University Departments

Data found from NAAC documents reveal that there are many autonomous colleges, which have not been able to secure even B Grade. On the other hand there are many five star or A++ colleges that have not been granted autonomy. UGC needs to reconsider its strategy for sanctioning autonomy to colleges. The existing autonomous colleges need not be allowed to continue with their autonomy, if they fall below A++ in NAAC assessment. In case of other colleges, sanction of autonomy needs to be considered only when they have been given at least A ++ Grade by NAAC.

Ensuring Physical Verification of Data

The teams from the university or UGC, visiting colleges for award of autonomy, generally do not bother to verify the physical data submitted by the college such as list of journals subscribed by each department, existence of a reading room, appointment letters and other details of the teachers, etc.

Making Provision for Departmentwise Autonomy in Colleges

A Department of a college having only two faculty members cannot effectively develop curriculum. Curriculum development is better in case of university Boards of studies that have members from a variety of situations.

Abolishing Facility for Autonomy to Colleges under Transfer System

The colleges run by State Governments or by private agencies having transfer system for their teachers can transfer teachers to a college going to be inspected for autonomy and later take away these teachers after inspection of the college is over. Again quality of curricular reform gets affected when a teacher who initiated it is transferred. Without taking care of this problem, autonomy has been sanctioned to many colleges.

Making Granting of Autonomy Target Free

One should not specify that there shall be so many A++ colleges in the country. It was not appropriate for the Programme of Action Document of NPE 1986 to hope that 500 colleges could be given autonomy during seventh plan period. This target might have put pressure on UGC to dilute the process of granting autonomy.

---

*An article in three parts.

All these indicate general failure of the scheme and inviting consideration to scrap this scheme.

Abolishing Extra Grants for Autonomous Colleges

Autonomy to a college indicates that the college has a sound economy. Such a college also does not have to send examination fees to the university. Just as many universities save from examination fees, the autonomous college might be having such surplus funds. The college also might be having surplus funds from entrance test fees. These can be effectively utilised for improving its ongoing programmes or introducing innovations. Hence, if the autonomous scheme continues, there is no necessity on the part of UGC to sanction more funds for autonomous colleges over other non-autonomous colleges.

Improving Teacher Quality

There are a number of strategies for improving teacher quality. Some of these are as follows:

Improving Quality of Teacher Selection Procedure

The quality of procedure adopted for selection of higher education teachers play a vital role. Gurudev Rabindranath Tagore gave following suggestions as regards selection process for teachers of higher education system.

> "While for the routine work of the university classes, men may be appointed as Assistant Professors in consideration of their academic titles and diplomas, it would be a most serious blunder to select Professors for higher work on the same principle. For the latter have to be the leaders and directors of thought. And none but such as have given unquestionable proof of originality and genius be placed in such positions. It is because of this defect in our universities that most of them have not been the success that they should otherwise have been.
>
> The right method of appointing professors is to invite the leading writers and thinkers available on any subject irrespective of race, colour, creed or caste to deliver courses of lectures and to select the best from among such lectures." (Das 1996, p. 746).

The above suggestions given half a century ago, are still valid and need consideration at appropriate levels.

Making NET Open to Persons without having Formal Qualifications

The National Policy on Education 1986 stipulated that efforts to be made for de-linking degrees from jobs. As mentioned earlier, there can be individuals who without having undergone any formal PG course work possess higher level of knowledge in comparison to PG students. This can be more seen in cases of subjects that do not have practical work. There are instances, where private candidates have topped PG examination results. Hence, NET should open itself to any individual. If necessary, there may be two tier screening.

Including Teaching Assessment in National Eligibility Test (NET) of UGC for Teaching Job

A number of organisations insist on delivery of a demonstration lesson by every candidate for teaching job. This type of insistence is rare in case of universities and government agencies. Although NET is being conducted by UGC for a number of years, it has not been able to get acceptance by the employers. It has been found that in certain cases of teacher selection interviews, NET qualified persons could not speak correctly even one sentence in English language. (Ibrahim 2000). Inclusion of teaching skill test in NET will motivate many aspirants to study about teaching profession, observe teachers and teaching and undertake training in development of teaching skills including use of multimedia, computer, etc. in teaching.

Abolishing Transfer System and Making Institution wise Appointment of Teachers in Colleges

In many states, there is transfer system for teachers. This has been creating havoc in higher education systems. Autonomous colleges become victim of the system. A new course or optional paper is introduced keeping in sight abilities of the then faculty members. The curriculum is adversely affected when the concerned teacher is transferred.

Again, transfer system has resulted in situations where teachers travel even from more than 100 kms distance daily to attend college. In many cases, such teachers do not attend colleges on first and last days of a week and also do not take classes throughout the day. They squeeze their classes and take continuously four and even five classes a day affecting the quality of teaching. No doubt such a system is useful for filling the pockets of politicians and bureaucrats. NAAC assessment becomes meaningless when the staff position in a college can be made thin by transferring most of the staff members to other institutions. Hence, it is high time that the States having transfer system should go for a fresh legislation to have institution wise appointment of teachers.

Treating Colleges at par with University Departments in case of Workload

There have been differences in distribution of 40 hours of work load between college teachers and university department teachers. As there are more PG Departments in general colleges than in universities, the distribution of different aspects of work load should be same. There is no justification in giving more time to university teachers than given to college teachers for carrying out research, as more numbers of Ph.D.s are in colleges than in universities.

Improving Morale and Accountability Level of Teachers

There are many instances of stress and burn out among a number of higher education teachers. In systems, where teachers are transferable, often political affiliation and capacity to give bribe operates in effecting transfers. Awareness about injustice in the system results in creating stress and burn out conditions among teachers that leads to inertia. In a system, where a teacher has to pay for transfer, the system cannot expect any level of accountability from teachers. Gone are the days when every teacher was helping students out side institutional working hours. UGC has been encouraging self-financed schemes in regular colleges. This has affected teacher accountability. In an autonomous college, MCA department was opened in Mathematics Department. It was observed that Mathematics teachers were more interested in taking MCA classes than their parent Mathematics classes, as MCA teaching gave them extra money. Correspondence courses have been started in universities so that they can augment the university's income. The teachers in different Departments are more interested in taking classes in Correspondence programmes than in their parent departments. The university authorities should be transparent in their dealings with teachers and members of community that can make teachers realise the level of their accountability. No regular teacher should be paid for extra classes taken. The teachers in universities would not be interested in taking extra paid classes, if the payment made to them is centralised and made taxable. If single door computerised payment system, the rush for earning extra money as examiner, teacher, centre superintendent, etc would decrease and teachers and the administrators can be able to get more time to do their duty. Holidays are meant for utilisation for enrichment of knowledge. Hence, teachers should not be made to work on holidays, be it the case of Open University programme or Distance Education programme of conventional university or any examination authority outside the institution.

Ensuring Payment of Adequate Salary

The colleges, especially private and unaided colleges suffer due to non-payment of appropriate salary. There are lecturers who get less than one thousand rupees per month. They continue like this for many years. During these years, they do not take their classes regularly. The college principal, on humanitarian ground ignores the truancy of such teachers. The students of such colleges are under—taught and are prone to malpractice in examinations. Such teachers, even after getting regular salary become habituated to teacher truancy. This also affects the regular system and fully paid teachers. Until payment of appropriate salary to teachers is ensured, quality of higher education will be at stake.

Stopping Private Coaching by College and University Teachers

Now a days, teachers are found demanding money for extra guidance. However, banning regular teachers to charge fees for providing extra coaching may help many unemployed get opportunity to provide private coaching. This strategy may make the regular teachers utilise the time thus saved for improving their own knowledge or for improving level of their preparation for teaching. In fact this has happened in a town in Orissa, where complaints were filed near authorities about private coaching of government college teachers. Authorities took action and this was stopped. However, everywhere in that State, the situation is not the same. Although a small number of college and university teachers are engaged in paid private coaching, it affects the system. Rich students generally go for these classes accentuating the gap between the rich and poor. There are instances of favouritism owing to such practice. The income of a few limited numbers is mistaken as income of every college and university teacher. Some of them become so tired in talking in coaching centres, that they fail to teach properly in their original classrooms. Such teachers do not teach with proper care in college classrooms so that they can compel some students go for private coaching. For instance, during last academic session, in a college, there were only four students in third year English honours class. As the teachers did not take their class, one student got her lessons from a junior college teacher on payment. She also did not attend college for other classes. Since, paid private coaching by same teachers is available; many rich parents also like to pay extra money so that they can get added advantage. In order to ensure effective utilisation of teachers in their work, private coaching has to be banned. The authorities should not carry coal to New Castle by allowing rich students go for paid private coaching by regular college teachers.

Providing Common Promotion Facilities for Teachers in Colleges and University Departments

Three decades ago in certain States, university teachers had limited facilities than government college teachers. Hence, more talented used to opt for government service. In course of time, the facilities for teachers in universities have been more than that of government and private college teachers. The university teachers have been mostly getting benefit of placement in professor scale, whereas such benefit is not available to college teachers, although majority of PG students are in colleges, not in university departments. Hence, there should be a set of common procedures for promotion of university and college teachers.

Giving Due Stress on Teaching Ability at the Time of Selection for Promotion

Teaching is the basic skill of a teacher. Every teacher in order to teach effectively knowingly or unknowingly carries out action research. These researches go unnoticed as these are not documented in a written form. In fact an efficient teacher will fail to get time to carry out formal research work in addition to teaching job. Giving more stress on research than on teaching has resulted in proliferation of sub standard Ph.D.s. It is high time that UGC reconsider its guidelines for promotion by giving appropriate place to teaching ability of teachers.

Making Successful Classroom Teaching Performance of New Teachers a Condition for Confirmation

Formerly there was a provision (in Orissa) that the first increment was to be sanctioned only after the principal of the college gave a satisfactory report based on observation of teaching. For some teachers, there had to be more than one inspection till the Principal was satisfied. In the UGC scales of pay introduced in late seventies, this provision was not there. There is a necessity of reintroducing such a provision. As the UGC orientation programmes have not given appropriate stress on development of teaching skills, this condition should be applicable for even teachers having completed Orientation Courses.

Encouraging Self Initiated Effort of Faculty Members to Continuously Update Knowledge and Skills

Education can be imparted only by a teacher and never by a method. Because of lack of stress on this aspect of education, the vital part of education remains incomplete. An ideal teacher's business is not only to inform but also to inspire. S/he can truly inspire, only if s/he is himself/ herself following the true path of a learner and keeping continuous touch with modern developments and practices at least in his/her own area of study. Tagore gave stress on role of the teacher as a lifelong learner.

"A teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its own flame. The teacher who has come to the end of his subject, who has no living traffic with his knowledge, but merely repeats his lessons to his students, can only load their minds; he cannot quicken them. Truth not only must inform but also inspire. If the inspiration dies out, and the information only accumulates, then truth loses its infinity". (Das 1996, p.64)

In order to make teachers realise this responsibility, the heads of institutions need to set examples. They need to organise periodical activities that can boost the spirit of lifelong learning among teachers.

Encouraging Participation of Teachers in Seminars/ Conferences

Seminars, workshops, conferences etc. besides promoting formal knowledge, promote informal linkage between teachers working at different places. This informal linkage also helps at the time of revision of curricula and also provides opportunity for informal learning about process of teaching and other activities in different places. Hence, adequate facilities should be provided to take part in seminars/ conferences.

Providing Facility for Exchange of Teachers

There is a system of exchange of teachers in certain developed countries. This facilitates mutual learning. Gurudev Tagore said that "The system of exchanging professors of different universities for short periods, as in America, should also be adopted." (Das 1996, p. 746). Hence, there may be facilities for teacher exchanges for short periods. There is already visiting fellowship scheme. UGC might go for a scheme of teacher exchange by making provision for payment of travel expenses for the purpose.

Ensuring Extension Work by College and University Teachers

As per the UGC specification, extension work is part of duty of college and university teachers. Extension work can be undertaken during the academic session. A few years ago, when the author was in Bhadrak College, he requested one of his colleagues in the Chemistry Department, to allow students of a nearby school to observe preparation of Oxygen. The programme was arranged on a Sunday. The gas man, laboratory assistant and the lecturer did not ask for any extra facility from the college for the purpose. The Principal and the Head of the Department had agreed for this extension work. Due to various reasons, the college and university teachers do not have adequate work in the college. On such days and hours, they can go for extension work. Activities that can be taken up may be, content knowledge up gradation programme for various levels of school teachers, conducting practical work in science subjects for school students, organisation of exhibitions in schools and in college and university departments for benefit of school students, etc. Teachers, interested in helping industries or other sectors can be allowed to do so. Adiseshiah (1987) suggested that a Political science teacher can help the Panchayats, a Commerce teacher can help different cooperatives maintain accounts, a Zoology teacher can help a dairy farm or a poultry farm, a Chemistry teacher can provide help for soil testing, a Physics teacher can help farmers repair their tools, etc. The institutions may also start extra classes, free of charge for academically weak students belonging to college or school level, as part of extension work by college teachers.

Making Provision for Readers, Professors and Principals to attend Refresher Courses as Participants

Every teacher needs to be a lifelong learner. There have been advancements in educational technology and also in content in different fields. Like lecturers ands senior lecturers, principals, professors and readers also need to be aware of these and also need to develop new skills required to become more effective teachers. For instance, today, all higher education teachers including readers and professors need to possess the skills to access internet facilities. There may be some lecturers and senior lecturers. who may be more knowledgeable and more skilled than the readers and professors. Hence, UGC should allow the ASCs to include willing readers and professors attend refresher courses as participants.

Making Provision for Collection and Dissemination of Information about Good Teachers and Their Teaching Strategies

The amount of research data on good teaching strategies is exiguous. There should be attempts at various levels - institution, university and UGC to undertake this task.

Encouraging Institution Level Faculty Development Programmes

Every institution needs to organise faculty development programmes through seminars, workshops, guest lectures, organised visits, etc.

Giving Encouragement for Formation of Subject Associations

The subject associations can be very much effective for improving professional competence of teachers. Generally, the teachers at higher education do not bother to form these associations and carry out various activities. On Sunday the 20th July, a workshop of faculty members in Education subject of a district was organised. There was no provision for TA. Out of nearly 60 faculty members only five participated. Kapur (1988) reported about success of subject association activities initiated by him as the principal of a college. All college principals need to encourage such activities. Such activities need also to be carried at university level and at State level by the State Council of Higher Education.

Improving Quality of Intake

Now-a-days, most of the higher education institutions are facing problems mostly due to poor quality of intakes. Mushroom growth of colleges has made many small colleges admit students without proper screening. In order to attract students for admission, the colleges go on adopting unfair means in the university examinations so that their students secure high grades/marks. Thus, the colleges/ university departments admitting students on the basis of career marks get cheated and get poor quality of students. Expansion of higher education has given rise to varie-ties in levels of institutions and students. The qualities of students vary. The variation is becoming wider due to increasing gaps between the best and the worst college. Heterogeneity of student population is more prominent in case of colleges and university departments not tak-ing recourse to admission tests. Reservation of seats for various categories of population also contributes to heterogeneity. Due to heterogeneity of student population, more problems arise in present day classrooms than found earlier. Unemployment situations have led to establishment of a large number of private institutions. A number of them have fake students on roll so that they can get affiliation from the concerned examining bodies and on that basis can get government grant. In rural institutions, the rate of failure is generally very high compared to urban institutions. In spite of rise in population, in certain parts of the country, there is a fall in enrolment in higher education. In such a situation, stress should be given on adoption of entrance test so that there is perceptible improvement in quality of intake.

Improving Quality of Rate of Attendance of Learners

In present scenario, majority of the students are interested in possessing a degree and not in the quality of learning associated with it. There are also a sizable number of students in colleges situated in urban areas and in departments of universities who enrol themselves to get hostel seats so that they have cheap accommodation in an urban area to prepare comfortably for various competitive examinations. These types of students also get the facility of bus and train concession to attend interviews and to go to examination centres. There are many students who earn money through various means while enjoying the stay in hostels. This situation results in huge drop out in classes. The Central and State Governments have promulgated many assistance schemes for educated unemployed. This motivates some individuals to go for acquisition of degrees and diplomas. A large number of higher education institutions have failed to ensure minimum percentage of attendance. In one State, a principal of a lead college was beaten by the students as he tried to enforce minimum percentage of attendance rule. He was hospitalised and had to be transferred from that college. In one autonomous college, it was found that for weeks, a teacher could not progress in his teaching, as in his class in every lesson; there was a new group of students for whom the topic had to be started afresh. The formal courses should stick to adequate percentage of attendance. In many colleges, science students of +3 first year classes continue to go to coaching classes preparing them for joining professional courses. They remain absent from the regular classes. As some of these are also sons or daughters of college teachers and authorities, the question of attendance for them is overlooked. Checking of this situation can be possible, if the colleges and universities can introduce continuous internal evaluation system.

Making Provision for Admission of Students without any Previous Qualification

Entry qualification is necessary, so that students in a class are some what homogeneous in their previously acquired knowledge. This makes the teacher proceed in coverage of course at the desired rate of progress. In case of postgraduate studies, there are many areas, where an individual is expected to have acquired degree level mastery at informal level in a subject. For instance, there are many narrators cum actors who professionally explain various mythological stories giving examples from books in Sanskrit and concerned State language. Such persons can easily compete with other graduates for admission into PG Classes in Sanskrit or concerned State languages. There have been no previous qualification, but only minimum age limit in case of Open university stream for PG courses offered in the universities such as Andhra, Annamalai, and Mysore etc. Hence, there should be no difficulty, if UGC makes this rule applicable for all colleges and university departments that have entrance tests. Sri Aurobindo International Centre of Education at Pondicherry has been declared by the Central Government as one of the five Institutions for Higher Learning. This Centre does not award any degree or diploma to its students. The students carrying course completion letters sit in the entrance examinations of certain institutions for which graduation is the minimum qualification. Such facilities need to be extended to students from all institutions, which can make teaching learning more innovative and free from examination hurdles.

Improving Teaching Quality

In situations, where students are poor and are not in a position to buy even a prescribed text book, the teachers cannot do much. In such a situation, a teacher who dictates notes is considered as a good teacher as this activity does not require the students to go to a library or to buy a book. However, a good institution is known by the quality of its teachers. A class taken by the teacher does not mean that the teacher taught the class. The University Education Commission 1949 highlighted the teaching in higher education as follows:

> "The real teacher is like the gardener who nurtures the plant and not a carpenter who cuts pieces of wood to fit into certain locations or a painter who covers them with an exterior coat of paints. Unless the tutor stimulates thinking rather than mere memorizing, deeper intellectual interests rather than aversion to thought, better perception of values rather than inappreciation, he serves no useful purpose, but may nourish wrong habits which will be difficult to eradicate." (Radhakrishnann 1949, p.69).

The institutions of higher education have been suffering from mediocrity and insincerity among teachers. Private colleges do not pay teachers till the college becomes old enough to receive grants. There are colleges, which take donations from teachers to issue appointment order. Such teachers do not attend college and come to college after a few years, only when they receive salary. Hence, insincerity in teaching is rampant among such teachers. The habit of cheating in early stages of the career sometimes continues throughout the career. In case of government institutions, there are also teachers who do not take classes. Some principals, taking note of injustice in transfer system, do not take action against truant teachers. They allow them to remain absent on Saturdays and Mondays. They also allow teachers knowing very well that such teachers will not teach sincerely, if this facility is not given to them. Many teachers do not get time for preparation. A few years ago, in an autonomous college, on one occasion, a lady teacher left a PG class before scheduled time and reported to the HOD that because the students intermittently put questions to her, she could not make any progress for which she left the class before scheduled time. On another occasion, it was found that three students were loitering out side the classroom, in which the concerned teacher was taking class. On enquiry, the students told the HOD that as the lady teacher was dictating notes on Educational Technology verbatim from a book available with them, they did not feel it right to attend the class. Teachers come to the class without adequate preparation because of the reasons like lack of time due to engagement in private coaching centres, household work including taking care of cooking, sending children to school, inability or unwillingness to spend funds to go to Internet café to get new ideas through browsing of various websites, purchasing books and journals, visiting libraries at the same place or elsewhere, lack of appropriate materials in the library, etc. There has not been legislation to restrict teacher absence during term time maximum to seven days as suggested by the Kothari Commission. The said Commission had also suggested question-answer for at least 10 minutes in every period of 60 minutes. There should be attempts to make the teachers understand the importance of adopting learner centered strategies that include discussion, assigned reading, seminar, project work, free progress approach, computer assisted learning/teaching, etc.

Ensuring Adequate Amount of Instructional Hours

The higher education institutions, specially affiliated colleges, do not provide adequate number of instructional hours. Some of the reasons are:

(a) Lengthy admission process requiring sending of intimations by registered post and receipt of documents for admission by registered post, keeping in view adverse law and order situation in a locality for which admission through counselling for a day or two is not adopted.

(b) Suspensions of classes due to engagement of teachers, during term time, in invigilation work for (i) their own college students and (ii) higher secondary students and (ii) others. © Suspension of classes as classrooms were engaged in examination work.

(d) Lack of provision in case of certain universities to hold in its own campus examination of private candidates and candidates from unsuitable colleges for which teachers and classrooms in other affiliated colleges are engaged.

(e) Administrative lethargy in distributing time table to students in time

(f) Examination malpractice phobia that makes authorities mobilise mass presence of teachers half an hour before starting of examination on examination days.

Half a century ago, the University Education Commission headed by Dr. S. Radhakrishnan had recommended 180 instructional days, excluding examination days, during a year. UGC has notified about such norms. Yet this is rarely achieved. For instance, in a Government college, during the session 2002-03 the data were as follows:

The data refer to two subjects - Education subject in case of Degree and History subject in case of PG. There are instances in the same college that students of 3rd year English Honours were absent in majority of days when attendances were taken by teachers. Attendances were taken in 129 periods in 97 days and students were present in 67 periods in 45 days. Generally, duration of each period was 45 minutes. But, each theory period according to the Education Commission 1966 headed by Dr D. S. Kothari should be at least for 60 minutes duration. But one does not find such timings.

Providing Adequate Numbers of Tutorial Classes

Fifty years ago, the University Education Commission had pointed out importance of tutorial work for higher education students. It stated that "Students should not only acquire information and develop the habit of independent thinking, but should also learn to present his ideas accurately in the correct language and in an orderly manner" (Radhakrishnan 1949, p.68). The Commission suggested maximum number of 6 students in a tutorial group. In certain situations, seats are increased without taking into consideration availability of classrooms. The UGC (1989) Guidelines on work load suggests weekly four hours of tutorial for teachers in Non laboratory/field work subjects but no such provision for subjects having laboratory/field work. As later groups of subjects such as Physics, Psychology etc. also have theory classes, UGC Guidelines need to be modified to provide at least two hours of tutorial classes. This leads to cancellation of tutorial classes and consequent decrease in teaching load and wastage of valuable resources in the form of teacher time. In spite of this situation, it is possible to organise tutorial classes. Initiative has to be taken by the concerned authorities.

Improving Efficiency in providing adequate Number of Classes by having Monthwise Time Table

In many institutions, the teaching load of teachers varies from one month to another. The situation that

Class	Unit	Attendance taken by teachers				Student(s) present in classes			
		Date of first class	Date of last class	No. of days	No. of periods	Date of first class	Date of last class	No.of days	No.of period
PG	II	16.7.02	19.2.03	125	213	26.8.02	10.2.03	116	141
	I	16. 8.02	19.2.03	98	199	16.8.02	10.2.03	73	157
3rd Yr	Hons	4.7.02	28.2.03	111	192	8.7.02	20.2.03	96	152
	Pass	8.7.02	12.2.03	82	87	8.7.02	11.12.02	57	62
2nd Yr	Hons	8.7.02	22.2.03	108	126	16.7.02	7.2.03	93	110
	Pass	8.7.02	28.2.03	49	49	8.7.02	7.1.03	41	41
1st Yr	Hons	19.8.02	25.2.03	89	96	19.8.02	19.2.03	78	83
	Pass	16.8.02	28.2.03	92	94	19.8.02	17.2.03	72	74

was found in one PG Autonomous College in a State was as follows:

Month	Load	Reasons
July	2/5th	No admission for +3 1st & PG-I. No class of PG-II students as they appear at their Part-I exam and no class for +3 III (Hon.) as they appear at +3 1st exam. Classes also remain suspended for exam work.
August	3/5th	No admission in +3 1st & PG-I classes
September	4/5th	Admission to +3 1st & PG-I takes place by mid Sept.
October	Full Class	
November	Full Class	
December.	Full Class	
January	4/5th	Test Exams for +3 II & +3 III
February	3/5th	No class for +3 II & +3 III
March	2/5th	No class for PG-II, +3 II & +3 III
April	2/5th	Annual exam for +3I and no class for PG-II, +3II & +3III. Classes remain suspended for +2, +3 III and +3 II exams.
May	0	No classes - examination and +3 1st annual exams.

These types of situation lead to wastage of human resources. Hence, it is appropriate that the time tables are prepared month wise. This can enable to have more classes for certain category of students. For instance, in the situation mentioned above, in the month of August, there can be more classes for PG II and +3 II and +3 III students in the absence of +31st and PG I classes.

References

1. Adiseshiah, M. S. (1987). University to be a University. *University News* 25, 50, 3 - 5 & 46, December14
2. Bhatia, S. C. (1993). Reform in higher education - the case of undergraduate education. *University News* 31, 12, 4 - 7, March 22.
3. Das, S. K. (Compiled). (1996) *The English Writings of Rabindranath Tagore*. Sahitya Academy, New Delhi.
4. Ibrahim, S. (2000). Uneven standards for national eligibility. *Economic and Political Weekly* 35, 41, 3695, October 7.
5. Kapur, J. N. (1988). Privileges and responsibilities of a college principal. *University News* 26, 33, 1-2 & 7, August 15.
6. Radhakrishnan, S. (1949). *Report of the University Education Commission 1948-49*. Govt. of India, New Delhi. ❑

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objectives	Names of the Organising Department	Name of the Organising Secretary/ Officer to be contacted
Dec. 15-19 2003	**Workshop on the Role of Information Technology in University Management**	To train the administrators in the use of computers and applications of information technology for improving the quality and efficiency of university management and decision-making.	Association of Indian Universities, New Delhi and Department of Computer Science and Technology, Goa University, Taleigao Plateau, Goa-403206	Dr. M Goswamy Director (Research) Association of Indian Universities. 16, Comrade Indrajit Gupta Marg (Kotla Marg) New Delhi - 110002 Ph. : (011) 23239345 Fax : (011) 23232131 E-mail : aiu@del2.vsnl.net.in Or Dr. Usha Rai Negi Sr. Res Assistant (Research) Association of Indian Universities, 16, Comrade Indrajit Gupta Marg (Kotla Marg) New Delhi - 110002 Ph.: (011) 23239345 Fax: (011) 23232131 E-mail: aiu@del2.vsnl.net.in

Science and Technology Education in the New Knowledge Era

V S Ramamurthy, Secretary to Government of India, Department of Science and Technology, New Delhi delivered the Convocation Address at the annual convocation of the Vellore Institute of Technology, Deemed University, Vellore on 19th March 2003. He said, "Higher educational institutions, besides their mandated role in the development of trained manpower and research, can also play a direct role in the economic growth of the nation. These, institutions are major repositories of scientific knowledge and seedbeds of new ideas and innovations. To realize their full potential, it is necessary not only to build strong linkages between these institutions and the industries but also to cultivate a spirit of entrepreneurship among the students so that more of them will venture into technology based enterprises". Excerpts.

Talking of the future, have you ever wondered what the future holds for us, as individuals, as nations or as the entire human race? You will agree with me that the recent years have indeed seen some revolutionary changes in the way in which we live. These changes have mainly come about by a large number of scientific discoveries in quick succession and a host of new technologies arising out of these scientific discoveries. Science and Technology have always been intimately connected with the evolution of the human civilization since time immemorial. The fire, the agriculture or the wheel are some of the very early landmark scientific discoveries which influenced human life on the face of the earth. Humanity, has continued to make new scientific discoveries since then leading to not only a better understanding of nature around us but also to a better quality of life through new and better technologies. But twentieth century has seen some major changes in the way Science is done, in the way Technologies are developed and in the way these influence the day to day life of the people. While the recent advances in computer, communication and transport technologies have shrunk the world into a global village, national developments are being increasingly dictated more by the knowledge strength than by access to natural resources and capital. It is therefore not surprising that the Twenty-first Century is often viewed as the beginning of a knowledge era. It is Science and Technology which is going to provide access to new knowledge and to the economic benefits arising out of this knowledge.

Any plan aiming at development through Science and Technology will have to address three aspects–strengthening of basic research, a program of applied research and technology development for developing science and technology based solutions for addressing the needs and mechanisms for technology transfer and diffusion which will enable laboratory knowledge to reach the end user. All Science and Technology based activities, be it basic research or applied research or technology transfer and diffusion, presume for their success the ready availability of trained manpower. Countries like the USA have made it their policy to attract trained manpower from whereever they are and use them for their national programmes. On the other hand, countries with limited resources and limited trained manpower have suffered as a result of the so called "brain drain". India is one of the countries which has experienced the adverse impact of such an asymmetric movement of trained people. Where do we stand today as we enter the Twenty-first Century? Our country produces a large number of students at all levels every year. It is also well recognized that while the quality of education imparted in some of the leading institutions like the IIT's are comparable to the best in the world, it is not up to expectations in the bulk of our institutions. While the publicly funded Universities and Colleges are facing a resource crunch, educational institutions under private management often place high emphasis on marketable courses and examination based degrees. Lesser and lesser number of our bright students are opting to take science streams including teaching and research as a career while an increasing number of engineering students opt careers in non-engineering streams such as management and marketing. With the globalisation of the market place for trained personnel, some of our bright ones opt to go abroad for better prospects. Such a trend if not attended to early is likely to lead to acute shortage of trained manpower not only for research and other science and technology activities but also for teachers in these streams. This certainly calls for urgent measures.

It is generally agreed that as a result our educational system facing a resource crunch, not only we do not have adequate number of institutions of higher learning but also find it increasingly difficult to equip the existing ones for the task assigned to them by global standards. The laboratories are generally under equipped. Together with the increasing student load, this has contributed a decline in research based education, another necessary ingredient to enthuse young students to opt for careers in research.

Taking cognisance of this serious development in the recent years, the Government of India has taken a number of steps to strengthen the standards of education in the universities and other academic institutions. These include, apart from increased budgetary allocations for improvement of infrastructure such as library facilities, computer facilities, internet connectivity and laboratory facilities, mid career training for the teachers and third party accreditation of the institutions.

The Department of Science and Technology has also initiated several schemes to usher in research based education and to identify and nurture talent in young students who have an aptitude for science and technology. Apart from liberal research grants to individual scientists on a competitive basis, Core Groups and Centres of Excellence have been established within the University framework centered around scientists with a proven track record. A number of major research facilities and sophisticated instrumentation facilities have also been established for the shared use of the scientific community in the Universities. Conscious efforts are also being made to promote closer interactions between universities and the research institutions so that the expertise and facilities available in the latter can be made use of by the teaching and student community in the universities also. A successful initiative in this direction is the establishment of Inter-University Consortium for using the major accelerator and reactor facilities in the DAE institutions. Another step in the same direction is the establishment of front ranking experimental facilities in the university sector itself. The Nuclear Science Centre in Delhi with a state-of-art heavy ion accelerator facility and the Inter-University Centre for Astronomy and Astrophysics are examples of such efforts taken to benefit the university community. It must be admitted that the general research infrastructure in the universities and colleges such as the laboratory facilities, the library and the computer acilities are below the expectations and need substantial inputs. The Fund for Improvement Science and Technology infrastructure in higher educational institutions (FIST) is a new initiative of the Department of Science and Tecnology to upgrade the basic Research and Development infrastructure in the universities and other institutions of higher learning.

In yet another initiative targeting young students, *Kishore Vaigyanik Protsahan Yojana*, students with an aptitude for research in any field of Science, Technology or Medicine from Secondary schools and undergraduate colleges are identified and nurtured during their entire education to take up research careers.

Through another initiative "REACH" we are making efforts to make our institutions imparting technical education respond to the needs of the industries. Under a tripartite Memorandum of Understanding involving the educational institution, one or more industries and Technology Information, Forecasting and Assessment Council (TIFAC) and Centres of Relevance and Excellence (COREs) are being established in several identified areas of technology. These COREs will design, teach and carry out research in areas identified by their industrial partners as their priorities.

Higher educational institutions, besides their mandated role in the development of trained manpower and research, can also play a direct role in the economic growth of the nation. These, institutions are major repositories of scientific knowledge and seedbeds of new ideas and innovations. To realize their full potential, it is necessary not only to build strong linkages between these institutions and the industries but also to cultivate a spirit of entrepreneurship among the students so that more of them will venture into technology based enterprises. The National Science and Technology Entrepreneurship Development Board of the Department of Science and Technology is engaged in evolving programmes and schemes to promote the spirit of entrepreneurship and innovation among the science and engineering students. The Board has set up a number of Science and Technology Entrepreneurship Parks and Entrepreneurship Development Cells in leading educational institutions across the country. A number of Technology Business Incubators are also being established to provide facilities for the development and growth of technology based small enterprises.

The winners of tomorrow are clearly those who can generate, assimilate and exploit knowledge for economic development, that too in real time. Ready availability of trained personnel at all levels is a basic requirement to face this challenge. Fortunately, human resource is also a truly renewable resource. It is quality education at all levels that will convert a mouth to feed into a brain, which can contribute to knowledge and wealth generation. India has an unique opportunityto become the hub of a global campus for Science and Technology education. Institute like the Vellore Institute of Technology can very well become the role models for such a transformation. ❑

CAMPUS NEWS

Seminar on Mass Communication

A National Seminar on Mass Communication on the theme 'Media Today' was organized recently by the Department of Mass Communication and Video Production (MCVP), Lachhoo Memorial College of Science and Technology, Jodhpur. The Seminar aimed at acquainting the participants with the current state of affairs in print-broadcasting-electronic media and their impact on the mind of the common man. Dr. Arun Nigavekar, Chairman, University Grants Commission inaugurated the Seminar. In his inaugural speech Dr. Nigavekar warned about the changing scenario and new challenges in media. "Media has the responsibility of developing awareness and wisdom to combat the evils of increasing commercialization. An information in itself is not a 'news'. It has to be converted into one with the editorial 'vivek' (discretion)," he said. Prof. V R Mehta Ex Vice Chancellor, Delhi University emphasized the need of positive thinking on the part of the media today to inculcate the right bent-of-mind in the reader/listener/viewer. "The new generation ready to take on the professional responsibilities of the media must equip itself with the new technology as well as the new needs of the society in the framework of our constitution," he said.

Dr. Sanjiv Bhanawat, Head, Centre for Mass Communication, University of Rajasthan, Jaipur was the Guest of Honour. He described the changes apparent in journalism and cautioned against the new challenges. According to him the students of mass media have to fully prepare themselves before aspiring to be future media personnel. Prof. Naseem Bhatia, Vice Chancellor, Jai Narain Vyas University, Jodhpur presiding over the inaugural function said that the media must reveal the ground realities and thus realize its important role in social transformation. Prof. R L Mathur, Principal of the college narrated the academic and extracurricular attainments of the college and the initiatives taken by it in vocationalization of education by restructuring conventional courses in accordance with UGC guide-lines and opening professional courses. Prof. Madan Mohan Mathur, Convener of the Seminar stressed the need to expose the students of mass communication to ethos and ethics of print/broadcasting and electronic media.

Dr. Kaushal Nath Upadhyay, Head, Department of Hindi, Jai Narain Vyas University presented a paper on 'Impact of the Mass Media on Minds of the Masses'. He evaluated the latest trends in the media which is well past its traditional form and technique. Dr. Upadhyay underlined the need of preserving and following certain basic values and ethics of media to evolve a better society. Ms. Rashmi Bohra presented a paper on Media and the social Development. She argued that the media has responsibility to educate the society and it can best discharge its duty by holding certain principles and ideology of common good.

In the Session on Electronic Media the Speaker Mr. Kamal Shrimali, CEO Drishti Media Private Ltd. deplored the present status of regional and city editions of newspapers which have reduced according to him to pamphlets. "The electronic media brings live images which last in mind longer than words and therefore the editing of shots brought in and dubbing of the story demand a pace combined with better judgment with regard to its repercussions," he said. Dr. Hari Das Vyas presented a paper on the theme Media and the Development of Social Personality'.

The Chief Guest of the valedictory session of the Seminar Dr N L Mitra, Vice Chancellor, National law University, Jodhpur spoke about the horrible condition of the media today. He expressed concern over the influence of market weighing heavily on media and 'news' becoming a commodity. " Very editorial institutions are facing the pressures of the investor. It appears to be slipping out of the hands of the professionals and missionaries into the clutches of the capitalist as it demands huge investment. And then law comes into picture. Right to information against right to privacy demands legal clarification," he said.

Sh. Prashant Kothari, Senior Manager of Jodhpur Edition of Rajasthan Patrika described media as the fourth column of a highly inflammable structure and the whole artifice of our democratic life. "The slightest slip on the part of the media man could prove disastrous," he said. According to him in the age of specialization, media has been forced to consult, engage and present subject specialists on various issues. Dr. Sanjiv Bhanawat in his speech enlightened the participants on various aspects of the media. Dr. P Patni, Faculty Member of the Department of Mass Communication of the College proposed a vote of thanks.

INFLIBNET Regional Training Programme

A five-day Regional Training Programme on 'Library Automation' was organized recently by Prof. Bhubaneswar Behera Central Library, Sambalpur University, Sambalpur. The Training Programme was sponsored by INFLIBNET, Ahmedabad (an autonomous organization of UGC). Mr. Prahallad Panda, Co-ordinator of the Training Programme in his welcome address, gave a brief account of the progress of the ongoing Library Automation Programme in the Department. Prof. M C Dash, Vice Chancellor, Sambalpur University inaugurated the Training Programme and enlightened the gathering about the Library Automation. Prof. S K Sanyal, Principal UCE, Burla spoke about the Library Automation and its implications. Prof. R K Rout, Professor in Charge, Library described the advantages of application of SOUL Software. Dr. B P Mohapatra, Ex-Librarian of Sambalpur University imformed about the importance of INFLIBNET, in Library Automation. Mr. Rajesh Chandrakar, Scientific and Technical Officer, INFLIBNET spoke about the Training Programme and its implications.

Dr. D B Ramesh, Head, Library and Information Centre, RRL, Bhubaneswar, Prof. C R Tripathy, Professor and Head, Department of Computer Science, UCE, Burla, Mr. R K Chandrakar, INFLIBNET, Dr. D B Ramesh, Documentation Officer, RRL, Sri Arun Basa, Computer Unit, Sambalpur University and Sri S K Pathy, Information Scientist, Sambalpur University were the resource persons. Various topics like Computer Networking, Library Automation, E-journals, SOUL Software, Use of Internet in Libraries etc. were dealt in the Programme.

In valedictory function Mr. Panda, Coordinator gave a brief account of establishment of UGC-Infonet in Sambalpur University. He enlighted the active participation of 31 library professionals in the training programme. The function was presided by Prof. U C Biswal, Department of Life Science and Chief Guest of the function was Prof. S C Panda, Chairman P G Council threw light on the importance of Internet in this computer era. Mr. Chandrakar, INFLIBNET gave a brief account of E-journals subscription. Mr. S K Pathy, Information Scientist proposed a vote of thanks.

TIET Convocation

The 17th Convocation of the Thapar Institute of Engineering & Technology, Patiala was held recently. Chief Guest of the occasions was Capt Amarinder Singh, Hon'ble Chief Minister of Punjab. The Guest of Honour, Mr. R Gopalakrishnan Executive Director, Tata Sons Ltd, Mumbai delivered the Convocation Address. In recognition of his scholarship, economic resurgence, strong commitment to building infrastructure, a fair deal to the downtrodden, transparent governance, commitment to rural development, reforms in the power sector, promotion of art and culture, development of education, and his invaluable contribution to the management of the socio-economic system of Punjab Capt Amarinder Singh, was conferred upon the Degree of Doctor of Science (Honoris Causa. Mr. Gautam Thapar, Member Board of Trustees of the Institute inaugurated the newly constructed P G Hostel.

Capt. Amarinder Singh, in his address acknowledged entrepreneurship as pride of Punjabi people. He called upon the students passing out of the portals of the institute to contribute towards the growth and development of the State which has suffered at the hands of militancy and administrative mismanagement. He assured to take Punjab to new heights of growth of which this state was once proud of. He said that it was regrettable fact that Punjab which was among the foremost wealthy states of India in the past but now it has gone down to seventh position. He affirmed that the technical and scientific manpower of the state can bring back this glory .

Mr. Gopalakrishnan advised the graduating students on various aspects to managing oneself, managing happiness, difficulties of life, managing ones consciousness, importance of direction vs distance, significance of grassroot level experience, learning to listen and making oneself deserve before one desires. He concluded his address by advising the students that they should be different from his generation when they become old. He said, " ours is a great and wonderful country, and realizing her true potential in the global arena depends ever so much on the quality and persistence of our young people."

Shri L M Thapar, President of the Institute presided over the function. Shri K K Nohra, Chairman, Board of Governors of the Institute highlighted future missions of the Institute. Dr. S C Saxena, Director, while presenting the Annual Report highlighted the main achievements during the previous year. He mentioned that the admissions were made through all India Engineering Entrance Examination (AIEEE) and the number of students enrolled were 2019, 506 students received their degrees, about 78 per cent students got placements through campus interviews, sponsored projects worth Rs. 167 lacs are ongoing, about 135 technical research papers were published by the faculty and students, 18 short term courses were organized, infrastructure worth Rs. 3.82 crores was added up in various laboratories and units, and the institute continued with distinction in the areas of Information Technology and Biotechnology, besides doing well in the core disciplines of Engineering and Technology.

Nearly 506 students were awarded degree in the convocation which included 306 students of Bachelor of Engineering, 59 students of Master of Computer Applications, 19 students of M.Sc. (Biotechnology), 60 students of Master of Engineering and 54 students of Master of Engineering (TTTI), three students of Master of Technology and two students of Doctor of Philosophy. President medal was awarded to Ms. Kalpana Bansal, Sardar Ranbir Singh Memorial Medal for the All Round Best Student to Ms. Sheerin Bharaj, HMT Medal to Mr. Aditya Dhand and Prof. V Rajaraman Computer Science/Engineering award to Ms. Ashima. 19 other Institute Medals were awarded to meritorious students who stood first in their respective branches.

The Distinguished Alumnus Award was presented to Sh. Maharaj Kishen Trisal, President and CEO of GE Motors India and GE Power Controls India, an Electrical Engineer of 1972 batch for his significant achievements and contributions in the area of industrial power generation business, and spearheading and launching the concept of cogeneration in industrial power generation in India.

Workshop on Internet and Applications

A Workshop on 'Internet and Applications' is being organized by the Indian School of Mines, Dhanbad during 10-20 December, 2003. It is being sponsored by the All India Council for Technical Education (AICTE). The aim of the Workshop is to provide an indepth training and education on Internet Technology and Applications including current and future research directions. Target participants are advanced students, research scholars and faculty members of Engineering Colleges/ Universities and fresh engineers of industrial sectors. Broad topics to be covered are Internet - History Aim & objectives; Architecture, TCP/IP &UDP'IP Addressing Scheme: IPv4 & IPv6; Tunneling, Dual Stack H factor analysis and address management; IP routing; Subnet Addressing & Masking; Internet Routing; RIP,IGP,EGP,BGP,OSPF etc. ARP & RARP; Error Control ICMP; other protocols like DCHP ,BOOTP, RTR,RCTP Internet Security-Fire Walls Filters; e-mail ,web ,Internet 2; Wireless/mobile Internet Real time service - VoIP/Internet Telephone, RSVP ,QoS, Knowledge Management, Optical networking, SONET technology, Nano /Millimeter wave technology etc.There will be a paper presentation session in the Workshop in which the participants will present papers on any topic of Computer Networks/Internet Technology

Interested candidates may register by applying on white paper with the details like Name & Affiliation, Address for communication with telephone/fax number and e-mail ID, Registration fee detail etc. A limited teacher participants will be provided TA/DA if so requested and if their requests are forwarded by the Head of AICTE approved colleges/University subject to availability of funds. Such candidates do not have to pay registration fee.

Registration fees for students and research scholars is 500/-; faculty members from AICTE approved colleges/universities is 1500/-; participants from industry is 2,000/-. Demand Draft for payment of fees may be drawn in favour of 'Workshop on Internet & Application' payable at Dhanbad , Jharkhand. For further details contact Professor C. T. Bhunia, Chair, Organizing & Programme Committee, Department of Computer Science and Engineering, Indian School of Mines, Dhanbad - 826007. Phone : 0326 - 221 - 0024/25/26. Extn. 5245 (O) 5345(R). Fax: 0326-221- 0028. e.mail : ctbhunia @ vsnl.com

National Conference on Internationalization of Higher Education

Internationalized higher education or borderless higher education is making its presence felt all over the world. Thousands of Indian students are going for higher education to countries such as USA, Canada, Australia, New Zealand and some European countries. It is estimated that there are over 70,000 Indian students in USA alone. On the other hand there are only 700 American students in Indian universities and colleges. Many foreign universities are actively operating in Indian cities offering their courses through franchisees or recruiting students for study abroad. Some of the best universities in India have set up overseas campuses or study centers in Gulf countries and South East Asian countries. They are also attracting foreign students for courses in Indian culture, philosophy, socio economic studies etc. This process of transnational transfer of students and teachers from country to country will speed up by the year 2005 when the World Trade Organization's General Agreement on Trade in Services will become operational.

Indian universities and colleges have a unique opportunity to participate in this process in the near future. The University Grants Commission has declared that from April, 2004 onwards the process of marketing Indian higher education abroad especially in African countries, Gulf countries etc. will begin. Indian universities and colleges with excellent infrastructure, competent faculty, globally relevant courses of studies and motivation for globalizing the campus have the potential to take advantage of this situation. In order to facilitate this process a National Conference is being organized by the Institute for Quality in Higher Education (IQHE), New Delhi on the theme 'Internationalization of Higher Education – Implications and Prospects for Indian Universities and Colleges' from 4 to 6 December, 2003 at the International Conference Hall, YMCA, New Delhi. The objectives of the Conference are -

- To study the implications of the internationalization of higher education in the wake of the WTO's General Agreement on Trade in Services;
- To sensitize leaders of universities/colleges, corporate houses, civil society and officials about the potential and pitfalls of internationalization so as to bring about a regime of higher education *based on quality, competitive edge in employability*, social justice and cultural values;
- To learn about successful experiments in international learning already implemented by foreign higher education agencies and Indian institutions;
- To facilitate programmes and activities, which will contribute to a just and productive system of borderless higher education in coming years.

Interested scholars may present papers on any aspect of the theme. A copy of the paper may be sent to the office of IQHE before 25th November, 2003. Registration fee for the Conference is Rs. 3000/- per participant which has to be paid by a demand draft in favour of 'A.I.A.C.H.E, New Delhi' on a New Delhi branch of the bank. For further details contact Dr Mani Jacob, Director, Institute For Quality in Higher Education, 39 Institutional Area, D-Block, Janakpuri New Delhi-110058. Phone No. 25622752/ 25506190/25520341. Fax No. 25555033. E-mail : aiache@nda.vsnl.net.in ; manijacobche@hotmail.com

Training Programme on Environmental Issues in Transportation Engineering

An efficient transportation system is essential for the nation's economy and improvement in the standard of living. Government of India and several state governments, realizing the critical role of mobility and accessibility for the economic development of the country formulated several schemes for strengthening and rehabilitation of Highway network such as the Golden Quadrilateral and North-South and East-West Corridor Development Plans (NHDP) with an expected capital outlay of more than Rs.100,000 crores. Added to this is the recently launched "Pradhan Mantri Gram Sadak Yojana (PMGSY)" covering rural road development. Several municipal administrations have also launched widening and strengthening of urban road on massive scale. These efforts have result in an improved mobility at city regional and national level. However the transportation system has had and continue to have lasting environmental disturbances as side effect. The petrol and diesel fuel burned by motor vehicle produce green house gases disturb the sustainable development. Hence, the air pollution due to vehicular traffic has to be curbed as envisaged by the earth summit 2002. In this backdrop a Training Programme is being organized on the subject 'Environmental Issues in Traffic and Transportation Engineering - EITTE - 2003' by the Department of Civil Engineering, National Institute of Technology, Warangal from 15 - 27 December, 2003 . The course contents for the Programme are:

- Sustainable development and environmental impacts of Traffic & Transportation Engineering
- Environment acts and regulations
- Traffic Forecast & Travel Demand Modeling
- Pollutions measuring equipment
- Measurement & Qualification of pollutants
- Pollution dispersion model
- Air pollution modeling software
- Environmental impact assessment / statement
- Pollution Mitigation through Traffic Management & Transportation System Management action
- Mapping Air pollution using RS & GIS

The Programme is open to the teachers of AICTE approved engineering colleges working in the concerned discipline and from industry and reputed R & D organizations. No registration fee will be charged from the teachers of AICTE recognized Engineering College. A caution fee of Rs.500/- is to be paid along with the application form. The caution money is refundable only to a) applicants who are not selected. b) selected applicants who attend the course. Participants from industry, Government Departments, etc., have to pay Rs. 4000/- per candidate as registration fee. For further details contact Dr. CSRK PRASAD

Coordinator, EITTE-2003 Head, Transportation Division, Department of Civil Engineering, National

Institute of Technology, WARANGAL- 506004. Phone 0870- 2459191, 2459497, Fax No. 2459853; 2459547. E-mail carknitw.ernet.in

Extension Programmes at Barkatullah Vishwavidyalaya

The Department of Continuing and Extension Programme, Barkatullah Vishwavidyalaya, Bhopal organized a one day slum development programme on the occasion of Gandhi Jayanti and Shastri Jayanti at a slum area Ishwar Nagar which was adopted by the Department for all round development under X five year plan project . The Programme was chaired by the Prof Kalika Yadav, Director and Head of Continuing Education Department, Barkatullah Vishwavidyalaya. In his presidential address Prof Yadav stressed on women education. Women education according to him should not only be restricted to 3Rs (Reading, Writing and Reasoning) but also should provide a learning society for meeting the solution of life and explain how the literacy and development is closely related. Prof. Yadav highlighted about the Late Revered Prime Minister, Shri Lal Bahadur Shastri's patriotism, sacrifice and love to the nation and gave examples of the courageous steps taken by him for attaining education in his early life.

Prof. Neeraj Sharma in her speech highlighted about women empowerment for the development of society and gave emphasis on population control. Dr. Hemanta Khandai, Project Officer explained the purpose of adopting the slum for up-liftment of oppressed, suppressed, depressed section of society and described how extension progremmes help to rebuild the confidence among women, youth and old people for the betterment of the society.Mrs. Kiran Mishra field Coordinator conducted the programme and Shri Sita Ram gave vote of thanks.

MoU for Siddha Medicine

A tripartite Memorandum-of-Understanding (MoU) has been signed between Shanmugha Arts, Science, Technology & Research Academy (SASTRA), Deemed University, Thanjavur, the Drugs & Pharmaceuticals Division of the Department of Science & Technology, Government of India and M/s Citadel Fine Pharmaceuticals, Chennai recently. While signing the MOU, Dr. Laxman Prasad, Director of Drugs & Pharmaceuticals Division, Department of Science & Technology, Government of India stated that SASTRA has created a history as it is first of its kind in India to undertake a project jointly with the Government of India and Pharmaceutical Industry, to standardize a medicine. He said that on 1994, when the Department of Science & Technology invited proposals for establishing institute-industry relationship for manufacturing medicines based on Siddha, there was no response but it is SASTRA (Deemed University) which came forward to take this challenging task for the benefit of the public.

Dr. G Victor Rajamanickam, Principal Investigator for the project said that the efficacy profile of the Kodiveli formulations for anti-inflammatory, anti-analgestic, anti-oxidant and anti-arthritic activities would be studied as per the protocol of the World Health Organisation (WHO). The collaborators would receive necessary inputs from the Centre for Psychosomatic and Biofeedback Mechanism, Institute of Medical Sciences, Banaras Hindu University, Varanasi. The last phase is clinical testing of the formulated drug on human subjects. The protocol as approved by the American Rheumatic Association would be followed, he added. Prof. R. Sethuraman, Vice Chancellor of SASTRA Deemed University also briefed about this project and honoured the guests. Prof. R Kandaswamy, Registrar gave welcome address and Dr. Hannah Rachael Vasanthi of School of Chemical & Biotechnology of SASTRA, proposed a vote of thanks.

National Conference on Microbes for Mankind

As we are in the twenty first century, we see biology as one of the top priorities in the field of science, and among the biological sciences microbiology has gained new stature. Microbiology is one of the most applied of all the biological sciences. Microbes have shaped the present environment and their activities will greatly influence our future. They were exploited for useful purposes long before anything was known about their existence or their characteristics. Close interaction between microbes and humans has existed from time immemorial. History reveals many other applications of microbial process that resulted in the production of desirable products particularly food and beverages. From this standpoint of industrial microbiology, microorganisms can be considered chemical factories in miniature. Man was quick to tame the microbes and use them to his advantage for improving agricultural productivity, in controlling food shortage and producing safe nutritious foods, to check disease, as supplements to the depleting energy resources, for environmental explorations and of course as powerful tools of research to unravel the mysteries of living process. Microbiology has experienced a dramatic explosion during the last few decades. The most exciting discoveries involving microorganisms have important and extensive application. The fields, vistas and challenges for student of microbiology are virtually limitless and new discoveries are made daily. Realizing the importance of microbes in these and other areas, a National Conference on 'Microbes for mankind' is being organized by the Department of Microbiology, Karpagam Arts and Science College, Coimbatore during 9-10 January, 2004. The Conference will focus on the following themes

- Antibiotic production
- Vaccine production
- Microbial enzymes
- Production of food, feed and beverages
- Bio-fertilizer
- Bio-degradation
- Immunology and
- Microorganisms and diseases

Academicians, Scientists, Research Scholars, Post-graduate students from universities, Research Institutes, Colleges and Industries may participate in the Conference. Abstract of the paper (about 250 words) may be prepared using MS Word 6.0 (or any compatible version) and sent to the Organizing Secretary by e-mail as file attachment. Hard copy of the full paper may be sent by regular post. Last date for submission of abstracts and registration is 15th Dec. 2003. Registration fee for participants from industry is Rs. 500/-; delegates is Rs. 250/-; and Students is Rs. 150/-. For further details contact Dr. M Palaniswamy, Organizing Secretary, National Conference on "Microbes for Mankind", Department of Microbiology, Karpagam Arts and Science College, Coimbatore 641 021. E-mail: kasc@md5.vsnl.net.in.

AIU News

AIU Initiatives for Promotion of Sports in Universities

Prof. Dayanand Dongaonkar, Secretary General, Association of Indian Universities (AIU) recently had a meeting with Shri R. Srivastava, Secretary, Youth Affairs and Sports , Ministry of Youth Affairs and Sports, Government of India to discuss various issues relating to the promotion of sports at the university level. Shri R K Mishra, Joint Secretary (Sports) and Smt. Devpreet A Singh, Deputy Secretary (Sports) were also present in the meeting. While discussing about the AIU initiatives for promotion of sports, Prof Dongaonkar informed that he was in touch with BCCI, Nehru Hockey Federation etc. to seek their cooperation for promoting sports at university/college level. As a response to the suggestion of ministry officials to concentrate on a few selected sports disciplines for improvement of quality, Prof Dongaonkar said that the AIU had decided to focus on seven sports disciplines namely - cricket, hockey, athletics, basket ball, badminton, shooting and archery. He affirmed that AIU would be taking initiative to promote on priority the quality of these games. Various schemes of the Ministry where the Government of India can assist the organization were discussed in the meeting. Sports infrastructure schemes in particular were mentioned under which the Ministry gives grants for setting up of athletic tracks, tennis courts (as proposed in the scheme for Sports Infrastructure which is under revision), indoor stadia etc. among other sports infrastructure.

As a part of planning for strengthening the sports teams, it was proposed that AIU should identify a few selected universities and colleges which would have the required talent in any of the chosen disciplines and focused attention should be given to the promotion of that particular discipline in the university/college. On the issue of lack of funds at universities which was deterring the sports activities, the Ministry officials suggested that besides Ministry grants, efforts could be made by concerned universities to procure funds from UGC, MPLAD, private sponsors etc. The Secretary, Youth Affairs and Sports referred in this context to the initiatives taken by the Sports Authority of India, Kendriya Vidyalay Sangathan and the Squash Rackets Federation for development of sports infrastructure.

Sports not being taken up as a career was another issue discussed at the meeting. The example of the USA was cited where most of the sportspersons were from the universities, and sports was taken up as a lucrative career option. In the meeting it was recommended that a Study could be commissioned by AIU to go into the factors leading to sports as a viable career option and the ways to go about it. Regarding the funds for the Study, it was advised to exploit National Sports Development Fund of the Ministry of Youth Affairs and Sports to sponsor it since one of the stated objectives of the Fund was to identify problems and take up research and development studies for providing support to excellence in sports. Prof. Dongaonakar said that AIU would also work out a strategy to have a study group to study the development of sports activities in the developed countries vis-à-vis in our country. While discussing about involving international participation in the university sports, Prof Dongaonkar said that the AIU would explore the possibility of inviting SAARC countries for the final events of Champions Trophy. ❑

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities (Notifications received in AIU during August-September, 2003)

AGRICULTURAL & VETERINARY SCIENCES

Agronomy

1. Satpal Singh. **Pod productivity of summer planted groundnut (Arachis hypogaea L.) as influenced by the interactive impact of land configurations with the seeding density, the irrigation scheduling and the weed management systems.** Department of Agronomy, Punjab Agricultural University, Ludhiana.

Forestry

1. Dixit, Bhavana. **Studies on occurrence and role of mycorrhiza in natural sal ecosystem of Bilaspur Forest Division.** (Dr Rashmi Agrawal), Department of Forestry, Guru Ghasidas University, Bilaspur.

Genetics

1. Narender Singh. **Analysis of morpho-genetic variation in Cedrus deodara (Roxb) Loud in H P.** (Dr P S Chauhan), Department of Genetics, Dr Yashwant Singh Parmar University of Horticulture and Forestry, Solan.

Plant Breeding

1. Jamwal, Bimal Singh. **Relative efficiency of three breeding methods of handling segregating generations in rice (Oryza sativa L.).** Department of Plant Breeding and Genetics, Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu, Jammu.

Sericulture

1. Muniswamy Reddy, P M. **Studies on induced mutations in mulberry.** (Dr Munirajappa), Department of Sericulture, Bangalore University, Bangalore.

2. Narasegowda, P N. **Effect of Y-rays on uzifly, exorista sorbillans (Wied).** (Dr H P Puttaraju), Department of Sericulture, Bangalore Unviersity, Bangalore.

3. Venkatachalapathy, K N. **Cytological, morphological sand biochemical investigations in the uzifly, exorista sorbillans (Wied) and blepharipa Zebina (Walk).** (Dr H P Puttaraju), Department of Sericulture, Bangalore University, Bangalore.

4. Venkatesh Kumar, R. **Adoption of improved practices in sericulture and extension education: A study in Karnataka.** (Dr Ismath Afshan), Department of Sericulture, Bangalore University, Bangalore.

BIOLOGICAL SCIENCES

Biophysics

1. Sivadasan, V A. **Coherent states of damped oscillators and their relavance to light induced ultra weal photon emission in plant tissues.** (Prof R P Bajpai), Department of Biophysics, North Eastern Hill University, Shillong.

Biotechnology

1. Sinha, Kislay Kumar. **Studies on a single stranded filamentous vibriophage of type VSK.** (Dr Amit Ghosh), Department of Biotechnology, Panjab University, Chandigarh.

2. Srivastava, Nidhi. **Somatic embryogenesis from the root cultures of safflower (Carthamus Tinctorius L.).** (Dr G B K S Prasad and Dr Rekha Bhadauria), Department of Biotechnology, Jiwaji University, Gwalior.

3. Verma, Archana. **Phase display based identification of structurally destabilisings mutations facilitating protein misfolding in amyloiditic neurodegenerative disorders.** Department of Biotechnology, Postgraduate Institute of Medical Education and Research, Chandigarh.

Botany

1. Datta, Pallavi. **Responses of diazotrophic gyanobacterial strains to herbicides and their potential in rice cultivation.** (Dr Surendra Singh), Department of Biological Sciences, Rani Durgavati Vishwavidyalaya, Jabalpur.

2. Manjunath, B K. **Studies on the floristic composition of Davangere District, Karnataka.** (Dr V Krishna), Department of Botany, Kuvempu University, Shimoga.

3. Prasad, Birendra Kumar. **Effect of fly-ash on some cultivated legumes.** (Dr H Roy), Department of Botany, Vinoba Bhave University, Hazaribag.

4. Ramarao Naidu, B V A. **Ethnomedicine from Srikakulam District, Andhra Pradesh, India.** Department of Botany, Andhra University, Waltair.

5. Sahu, Ranjeev Kumar. **Responses of crop plants in changed environment with particular emphasis on accumulation of heavy metals in used vegetable and crop plant.** (Prof C Chatterji), Department of Botany, University of Lucknow, Lucknow.

6. Sailaja, Kraleti Kali. **Studies on mycodegradation of A herbicide-glyphosate.** (Dr K Satyaprasad), Department of Botany, Osmania University, Hyderabad.

7. Singh, Praveen Kumar. **Comparative study of algal micro flora of two different agroclimatic zones of UP. India.** (Prof R K Mehrotra), Department of Botany, University of Lucknow, Lucknow.

8. Sridhara, T A. **Production of phosphocompost as a substitute for phosphatic fertilizers in crop production.** (Dr Anusuya D), Department of Botany, Bangalore University, Bangalore.

9. Suresh Kumar, C. **Tissue culture studies in Curcuma longa L.** (Dr Gayatri M C), Department of Botany, Bangalore University, Bangalore.

10. Tripathi, Anshuman. **Studies on fusarium corm rot and yellows of gladiols.** (Prof H N Verma), Department of Botany, University of Lucknow, Lucknow.

11. Verma, Amitosh. **Attenuation of automobile generated AIR pollution by higher plant.** (Prof P N Sharma), Department of Botany, University of Lucknow, Lucknow.

12. Viquar Ahmed. **Flouristic survey of medicinal plant of reserve forest under North Arcot District of Tamil Nadu with special reference to characterisation and domestication of important medicinal plants.** (Dr S Lavania), Department of Botany, University of Lucknow, Lucknow.

Zoology

1. Anant Kumar. **Effects of fertilizer and pesticides on blood parameters of common myna: Acridotheres tristis.** (Dr R Prasad), Department of Zoology, Bhupendra Narayan Mandal University, Madhipura.

2. Dhabe, Priyakumari Shankarrao. **Comparative study on application of pituitary extract and ovaprim in Indian major carps.** (Dr Y K Khillare), Department of Zoology, Dr Babasaheb Ambedkar Marathwada University, Aurangabad.

3. Gupta, Suresh Kumar. **Studies on the digenetic trematodes of some avian and mammalian host of Hajipur and its suburbs.** (Dr U P Verma), Department of Zoology, Babasaheb Bhimrao Ambedkar Bihar University, Muzaffarpur.

4. Jogi, Shailza. **Diversity and density studies of piscian fauna of Dulhara Pond of Ratanpur, Distt Bilaspur with special reference to feeding and growth.** (Dr Meena Khare), Department of Zoology, Guru Ghasidas University, Bilaspur.

5. Khan, Khalid Mahboob. **Behavioural ecology of black buck (Antelope cervicapra) in the Diara area of Gangetic Plains of Rajpur, Buxar in Bihar.** Department of Zoology, Magadh University, Bodh Gaya.

6. Krishan Kumar. **Studies on organic solid waste management through vermiculture technology and effect of toxicants on earthworms.** (Dr Vineeta Shukla), Department of Zoology, Maharshi Dayanand University, Rohtak.

7. Malik, Shalie. **Spectral sensitivity of the photoperiodi clock in the blackheaded bunting (Emberiza Melanocephala) Scopoli.** (Dr Vinod Kumar), Department of Zoology, University of Lucknow, Lucknow.

8. Mishra, Pankaj. **Ecological study of the grasshoppers in the forest floor of Guru Ghasidas University Campus, Bilaspur (CG).** (Dr K P Dwivedi), Department of Zoology, Guru Ghasidas University, Bilaspur.

9. More, Ashwini Madan. **Studies on developmental differences in cypriaid and non cypriaid fishes.** (Dr Y K Khillare), Department of Zoology, Dr Babasaheb Ambedkar Marathwada University, Aurangabad.

10. Onkar Singh. **Biology of an endangered fish, golden mahseer, tor putitora (Hamilton, 1822) in relation to ecological conditions of Hillstreams of the River Beas in Himachal Pradesh, India.** (Dr M S Johal), Department of Zoology, Panjab University, Chandigarh.

11. Rahalkar, Shubhda. **Studies on the APHID lipaphis erysimi (KALT) with reference to effect of some physical factors on mustard plant of Bilaspur Region.** (Dr K P Dwivedi), Department of Zoology, Guru Ghasidas University, Bilaspur.

12. Raj Kumar, N. **A field study of heavy metals (Copper and Zinc) concentrations in biotic and biotic compartments (Fish and benthic worms) of select strech of River Krishna and its tributaries in A P, India.** (Prof V Nagulu), Department of Zoology, Osmania University, Hyderabad.

13. Seraphim, Emma Rani. **Endocrine interation during differnt phases of the female reproductive cycle in Hipposideros lankadiya (Kelaart).** (Dr M M Gadagone), Department of Zoology, Nagpur University, Nagpur.

14. Sharma, Shailendra Kumar. **Biodiversity of littoral benthic organisms and their trophic relationship with shore birds and fish in Sirpur Lake, Indore.** (Dr L K Mudgal and Dr D K Belsare), Department of Zoology, Devi Ahilya Vishwavidyalaya, Indore.

15. Tyagi, Pankaj Kumar. **Population genetics of allozyme variation and metric traits in wild and laboratory populations of drosophila.** (Dr Ravi Prakash), Department of Zoology, Maharshi Dayanand University, Rohtak.

16. Venkata Reddy, E. **Environmental impact of pesticides on beekeeping and bee pollination.** (Dr C Chandrasekhara Reddy), Department of Zoology, Bangalore University, Bangalore.

17. Venugopalan Nambiar, M. **Studies on larval and adult echinostomes (Trematoda Digenea) in Malabar, Kerala.** (Dr K P Janardanan), Department of Zoology, University of Calicut, Calicut.

18. Vinutha, C. **Investigations on the ecology and reproductive biology of selected hymenopteran species.** (Dr Katre Shakunatala), Department of Zoology, Bangalore University, Bangalore.

EARTH SYSTEM SCIENCES

Environmental Science

1. Gupta, Pushplata. **Pollination ecology of some tree species of social forestry of Rewa.** (Dr R M Mishra), Department of Environmental Biology, Awadhesh Pratap Singh University, Rewa.

2. Mande, Sanjay Prabhakar. **Energy-environment economic trade-offs of biomass gasifier based power plants as an option for decentralised power plants in India.** (Dr S B Wagh), Department of Environmental Science, Dr Babasaheb Ambedkar Marathwada University, Aurangabad.

3. Naika, Raja. **Studies on biodegradation process in the Thunga and Bhadra Rivers sediment by aquatic fungi.** (Prof E T Puttaiah), Department of Environmental Science, Kuvempu University, *Shimoga*.

4. Nandalal, P. **Epidemiology of nosocomial infections in District Hospital, Mandya.** (Dr Somashekar R K), Department of Environmental Science, Bangalore University, Bangalore.

5. Sehgal, Vandana. **Pollutants removal from waste utilisation of waste materials.** (Dr R K Shrivastava and Dr A K Ayachi), Department of Environmental Science, Rani Durgavati Vishwavidyalaya, Jabalpur.

6. Singh, Shirish Kumar. **Evaluation of photosynthesis and water relations study in quercus semecarpipolia smith. under natural and nursery conditions.** (Dr Sharda Khandelwal), Department of Environmental Science, Jiwaji University, Gwalior.

Geology

1. Agarwal, Gopal Krishna. **A study of sandbox analogue modelling in contractional regime: Application to the Himalayan Fold-Thrust Belt.** (Dr K K Agarwal), Department of Geology, University of Lucknow, Lucknow.

2. Hoda, Shaikh Quamrul. **Geology, geochemistry and economic aspects of Samchampi alkaline-carbonatite complex, Karbi Aanglong Distt, Assam, India.** (Dr P Krishna Murthy), Department of Geology, Osmania University, Hyderabad

3. Latha, A. **Petro mineralogical and geochemical characters of bandalamotta lead deposit, Guntur District, Andhra Pradesh, India.** (Prof R Pavanguru), Department of Geology, Osmania University, Hyderabad.

4. Srinivasa, A. **Hydrogeological study of Kumudvathi River Sub-basin in Karnataka.** (Dr Nagaraja H M), Department of Geology, Bangalore University, Bangalore.

Geophysics

1. Behera, Laxmidhar. **Seismic imaging of Mahanadi Delta and its tectonic significance.** (Dr H K Gupta), Department of Geophysics, Osmania University, Hyderabad.

ENGINEERING SCIENCES

Chemical Engineering

1. Nirguna Babu, P. **Studies on thermodynamic properties of binary mixtures.** (Dr Y Jagannadha Rao), Department of Chemical Engineering, Bangalore University, Bangalore.

2. Sathyanarayana, M S. **Development of light-weight lead acid battery suitable for traction purposes.** (Dr Y Jagannadha Rao), Department of Chemical Engineering, Bangalore University, Bangalore.

Electrical Engineering

1. Saxena, Kishor Kumar. **Simulation of instability in modern power systems and new control strategies to enhance the stability margin.** (Prof R S Mahajan), Department of Electrical Engineering, Guru Ghasidas University, Bilaspur.

2. Singhai, Sanjay Kumar. **Some schemes for minimisation of congestion in BISDN.** (Dr R S Mahajan), Department of Electrical Engineering, Guru Ghasidas University, Bilaspur.

Mechanical Engineering

1. Jasbir Singh. **Intelligent control techniques and applications.** (Dr A P Mittal), Department of Mechanical Engineering, Maharshi Dayanand University, Rohtak.

MATHEMATICAL SCIENCES

Mathematics

1. Awati, Vishwanath Basawaraj. **Numerical and semi numerical methods for solving ordinary and partial differential equations.** (Dr N M Bujurke), Department of Mathematics, Karnatak University, Dharwad.

2. Deswal, Manju. **On scattering of rayleigh waves by irregular boundaries.** (Dr J S Nandlal), Department of Mathematics, Maharshi Dayanand University, Rohtak.

3. Jat, Hakim Singh. **Mathematical and computational study of environmental pollution problems.** (Prof V P Saxena), Department of Mathematics, Jiwaji University, Gwalior.

4. Meshram, Suchitra Anil. **Some mathematical aspects of *inverse and direct problems of thermoelasticity.*** (Dr K C Deshmukh), Department of Mathematics, Nagpur University, Nagpur.

5. Mishra, Shweta. **Some contribution in the field of multivariable I-functions.** (Dr C K Sharma), Department of Mathematics, Awadhesh Pratap Singh University, Rewa.

6. Ramana, K V. **A study of entire dirichlet series in one and several complex variables.** (Prof I H Nagaraja Rao), Department of Mathematics, Andhra University, Waltair.

7. Ravi Kanth, A S V. **Numerical treatment of singular boundary value problems.** (Dr Y N Reddy), Department of Mathematics, Kakatiya University, Warangal.

8. Srivastava, Shalini. **On models of irreducible Q representation of certain lie algebras and special functions.** (Dr Vivek Sahai), Department of Mathematics, University of Lucknow, Lucknow.

9. Verma, Rani Pushpa. **Some problems on approximation of fourier series with reference to summability methods.** (Dr R S Yadav), Department of Mathematics, Guru Ghasidas University, Bilaspur.

Statistics

1. Anita. **Study of some reliability models with various types inspection and replacement.** (Dr R K Tuteja), Department of Statistics, Maharshi Dayanand University, Rohtak.

2. Harjeet. **Stochastic and profit analysis of some reliability models with post repair inspection and accident.** (Dr R K Tuteja), Department of Statistics, Maharshi Dayanand University, Rohtak.

3. Renu Bala. **Statistical methods for environmental and genotype environmental components of variability.** (Dr *Ratna Raj Laxmi*), Department of Statistics, Maharshi Dayanand University, Rohtak.

MEDICAL SCIENCES

Pharmaceutical Science

1. Bopanna, K N. **Knowledge about experiences with, attitude towards antidepressants in an Indian setting.** (Dr Chittaranjan Andrade and Dr B v Venkatraman), Department of Pharmacology, National Institute of Mental Health and Neuro Sciences, Bangalore.

2. Nanjunda Swamy, N G. **Synthesis, purification and evaluation of hydroxy alkyl and carboxy alkyl, derivatives of guar and study of pharmaceutical applications of select guar derivatives.** (Dr T S Dharmarajan), Department of Pharmacy, Bangalore University, Bangalore.

3. *Narasimha Murthy.* ***Preformulation design and*** **evaluation of transdermal drug delivery systems of selected anti asthmatic drugs.** (Dr Shobha Rani R), Department of Pharmaceutical Science, Bangalore University, Bangalore.

4. Sanjay Pai, P N. **Screening of potential flourinated non-steroidal anti-infalmmatory agents with drug design.** (Dr Bagavant G), Department of Pharmaceutical Science, Bangalore University, Bangalore.

5. Srinath, M S. **Novel drug delivery system for selected bronchodilator drugs pulsincap system.** (Dr K L K Paranjothy), Department of Pharmaceutical Science, Bangalore University, Bangalore.

6. Viswanath, B A. **New trends in production management in pharmaceutical industry.** (Dr K L K Paranjothy), Department of Pharmaceutical Science, Bangalore University, Bangalore.

PHYSICAL SCIENCES

Biochemistry

1. *Jaspreet Kaur.* ***Studies on the regulation of intestinal*** **lactase gene in hypolactasia in adult rats.** (Dr Akhtar Mahmood), *Department of Biochemistry, Panjab University, Chandigarh.*

2. Kuldip Singh. **Studies on the effect of monosodium glutamate (MSG) on the oxidative stress, in certain tissues of adult mice.** (Dr Pushpa Ahluwalia), Department of Biochemistry, Panjab University, Chandigarh.

3. Raheja, Geetu. **Role of second messengers and synapsin phosphorylation in dichlorvos induced neurotoxicity in rat.** Department of Biochemistry, Postgraduate Institute of Medical Education and Research, Chandigarh.

4. Thyagarajan, Anita. **Metabolic alterations in thyroid disorders.** Department of Biochemistry, Maharaja Sayajirao University of Baroda, Vadodara.

Chemistry

1. Dwivedi, Jaya. **Studies on the effect of flyash (ZN,Mo, and some toxic elements) on amino acids and linoleic acid contents of the seeds of Helianthus annuus.** (Dr S A Khan), Department of Chemistry, Guru Ghasidas University, Bilaspur.

2. Hangarge, Rajkumar Vishwanath. **Use of some catalyst in organic reactions.** (Dr M S Shingare), Department of Chemistry, Dr Babasaheb Ambedkar Marathwada University, Aurangabad.

3. Kuthe, Sandeep. **Carbonageous adsorbents for protection against toxic vapours: A comparative study of granular activated carbon and activated carbon spheres.** (Dr R V Swamy and Dr Shashi Prabha), Department of Chemistry, Jiwaji University, Gwalior.

4. Pandey, Smita. **Complexation behaviour of tris (Diphenylphosphino dimethylsilyl) methane with group 6 metal carbonyls.** (Dr S K Gupta), Department of Chemistry, Jiwaji University, Gwalior.

5. Pathak, Uma. **Studies on antidotes to sulphur mustard.** (Dr S K Raza and Dr S Prabha), Department of Chemistry, Jiwaji University, Gwalior.

6. Raji Reddy, Ch. **Synthetic efforts on anticancer compound epothilone A and development of new reduction procedures using polymethylhy-drosiloxane (PMHS).** (Dr S Chandrasekhar), Department of Chemistry, Osmania University, Hyderabad.

7. Ratna Kumari , R. **Studies on distribution of zooplankton and their biochemical composition in the Visakhapatnam Harbour Waters, Bay of Bengal.** (Dr I Nageswara Rao), Department of Chemistry, Andhra University, Waltair.

8. Sonkusley, Jayshri. **Studies on swelling and drug release analysis of ph-sensitive hydrogels containing diprotic acids.** (Dr S K Bajpai), Department of Chemistry, Rani Durgavati Vishwavidyalaya, Jabalpur.

9. Srikanth, Abirami. **Synthesis and studies on the oxidation of silylated Olefins, activated hydrocarbons and aromatic alkynes using a novel ruthenium catalyst.** (Dr Gopalpur Nagendrappa), Department of Chemistry, Bangalore University, Bangalore.

10. Yadav, Anita. **Physico-chemical studies of Hasdeo River water concerning effect of industrial effluents.** (Dr A K Pandey), Department of Chemistry, Guru Ghasidas University, Bilaspur.

Physics

1. Anand, Arun. **Investigations on photorefractive crystals for metrology and testing.** Department of Physics, Maharaja Sayajirao University of Baroda, Vadodara.

2. Balasubrahmanyam, P. **MST radar observations of gravity waves in the lower atmosphere for a low latitude station.** (Dr Gopa Dutta), Department of Physics, Osmania University, Hyderabad.

3. Brahme, Nameeta. **Studies on the deformation induced luminescence and thermally stimulated luminescence in gamma irradiated rarre earth doped Ca F2 crystals.** (Dr M S K Khokhar and Dr R S Kher), Department of Physics, Guru Ghasidas University, Bilaspur.

4. Das, Chitta Ranjan. **Investigations in unified theories.** (Prof M K Parida), Department of Physics, North Eastern Hill University, Shillong.

5. Gadkari, Manish Shashikant. **Study of preequilibrium emission in alpha particle induced reactions.** Department of Physics, Maharaja Sayajirao University of Baroda, Vadodara.

6. Misra, Puneet. **Investigation of humidity sensing properties of aluminates and ferrates thick films and MgO thin films.** (Dr R K Shukla), Department of Physics, University of Lucknow, Lucknow.

7. Rakshas, Sanjivani Vallabh. **Magnetic and other related investigation of vanadium multicomponent oxide glasses.** (Dr D K Kulkarni), Department of Physics, Nagpur University, Nagpur

8. Singh, Jyotsna. **Two neutrino double beta decay of some nuclei in the mass range A=76 to 130 within PHFB Model.** (Dr P K Rath), Department of Physics, University of Lucknow, Lucknow

9. Yadav, Madhusudan Girdhar. **Stable isotope systematics in cave calcites: Implications to past climatic changes in tropical India.** (Dr R Ramesh), Department Physics, Devi Ahilya Vishwavidyalaya, Indore. ❑

RASHTRIYA SANSKRIT VIDYAPEETHA

Accredited with A+ grade by NAAC (Deemed University)
TIRUPATI - 517 507 (A.P.)

Notification

Applications are invited for the following posts:

01. Professor in Education	**(16,400 - 22,400)**	**- 1 post**
02. Reader in Education	**(12,000 - 18,300)**	**- 2 posts**
03. Lecturer in Education	**(8,000 - 13,500)**	**- 2 posts - Gen.**
04. Lecturer in Jyotisha	**(8,000 - 13,500)**	**- 1 post - PH**
05. Lecturer in Maths	**(8,000 - 13,500)**	**- 1 post - ST**
06. Lecturer in Temple Culture	**(8,000 - 13,500)**	**- 1 post - Gen.**
07. Lecturer in Hindi	**(8,000 - 13,500)**	**- 1 post - SC**
08. Lecturer in Research & Publications	**(8,000 - 13,500)**	**- 1 post - Gen.**
09. Assistant Registrar	**(8,000 - 13,500)**	**- 1 post - Gen.**

POSITIONS UNDER INSTITUTE OF ADVANCED STUDY IN EDUCATION

01. Principal	**(16,400 - 22,400)**	**- 1 post**	**Temporary Project Posts**
02. Reader	**(12,000 - 18,300)**	**- 2 posts**	
03. Lecturer	**(8,000 - 13,500)**	**- 5 posts - (2 - Gen, 2 - SC & 1 - ST)**	

Applications along with prospectus can be had on payment of Rs. 300/- (Rs. 150/- for SC/ST candidates) by D.D. drawn in favour of **Registrar, Rashtriya Sanskrit Vidhyapeetha, Tirupati.** The last date for receipt of filled in applications is 5-12-2003, upto 5.30 pm. **Applications alongwith prospectus can also be had from the Website: http//rsvidyapeetha.ac.in**

F.No. RSV/Estt/03 dt. 23.10.2003 **REGISTRAR**

DR. PANJABRAO DESHMUKH KRISHI VIDYAPEETH,
P.O. KRISHINAGAR, AKOLA.

ADVERTISEMENT

No.BBA/ADVT./2003 **Dated the 15th October, 2003.**

Applications in the prescribed form from eligible candidates for regular / temporary existing vacancies are invited on or before **15th December, 2003**, for the posts indicated below and also for waiting list for future vacancies.

Sr No.	Name of the post	Total Posts	Position of vacancies					
			SC	ST	VJ/ NT	OBC	SBC	OPEN
1	2	3	4	5	6	7	8	9
(A)	**ASSOCIATE PROFESSOR :** **FACULTY OF AGRICULTURE-** **(Pay Scale Rs.12000-420-18300/- plus Other admissible allowances)**							
1.	Agronomy	6	-	-	-	2	-	4
2.	Agril. Botany	3	-	-	1 NT(B)	1	-	1
3.	Agril. Chemistry & Soil Science	3	-	-	-	-	-	3
4.	Horticulture	4	-	-	1 NT(B)	1	-	2
5.	Entomology	2	-	-	1 VJ(A)	-	-	1
6.	Plant Pathology	2	-	-	-	-	-	2
7.	Animal Husbandry & Dairying	2	1*	-	-	-	-	1
8.	Agril. Extension	3	-	-	1* NT(B)	-	-	2
9.	Agril. Economics	2	-	-	1* VJ(A)	-	-	1
10.	Physics	1	1*	-	-	-	-	-
11.	Computer Science	1	-	-	-	-	-	1
12.	Bio-Technology	1	-	-	-	-	-	1
	Forestry –							
13.	Silviculture & Tree Inplant	1	-	-	-	-	-	1
14.	Agro-Forestry	1	-	-	-	-	-	1
15.	Forest Protection	1	-	-	-	-	-	1
(B)	**FACULTY OF AGRIL. ENGG.**							
16.	Farm Structure	1	1*	-	-	-	-	-
17.	Agril. Process Engineering	1	-	-	-	-	-	1
18.	Elect. & Other Energy Sources	1	1*	-	-	-	-	-
19.	Soil & Water Management	1	-	1	-	-	-	-
20.	Farm Machinery & Power	1	1	-	-	-	-	-
21.	General Agril. Engineering	1	-	-	-	-	-	1

Sr No.	Name of the post	Total Posts	Position of vacancies					
			SC	ST	VJ/NT	OBC	SBC	OPEN
1	2	3	4	5	6	7	8	9
(A)	**ASSISTANT PROFESSOR :** **FACULTY OF AGRICULTURE-** **(Pay Scale Rs.8000-275-13500/- plus Other admissible allowances)**							
1.	Agronomy	4	1	1	-	-	-	2
2.	Agril. Botany	8	-	1	-	-	1	6
3.	Agril. Chemistry & Soil Science	7	-	-	-	-	-	7
4.	Horticulture	5	-	-	-	1	-	4
5.	Entomology	6	-	-	-	2	-	4
6.	Plant Pathology	6	-	1*	-	1	-	4
7.	Animal Husbandry & Dairying	2	-	-	-	1	-	1
8.	Agril. Extension	5	-	-	1 NT(B)	2	-	2
9.	Agril. Economics	1	-	-	-	-	-	1
10.	Microbiology / Molecular Biology	1	-	-	-	-	-	1
11.	Physics	3	1	1	-	1	-	-
12.	Mathematics	3	-	-	-	1	-	2
13.	Computer Science	2	1	-	-	-	-	1
14.	Bio-Technology	2	1	-	-	-	-	1
	Forestry –							
15.	Forest Manage. & Economics	1	-	-	-	-	-	1
16.	Forest Ecology	1	-	-	-	-	-	1
17.	Forest Product Utilization	1	-	-	-	-	-	1
(B)	**FACULTY OF AGRIL. ENGG.:**							
18.	Farm Structure	1	1	-	-	-	-	-
19.	Agril. Process Engineering	1	1	-	-	-	-	-
20.	Civil Engineering	1	-	-	-	-	-	1
21.	General Agril. Engineering	4	-	-	1 VJ(A)	2	-	1

NOTE: 1) * These posts are readvertised. 2) Abbreviation : SC-Scheduled Caste, ST-Scheduled Tribes, VJ/NT: Vimukta Jati and Nomadic Tribres, SBC-Special Backward Classes, OBC-Other Backward Classes. 3) Candidate from reserved categories should belong to the reserved categories notified by the Govt. of Maharashtra from time to time.

AGE LIMIT : For Associate. Prof. 45 years and for Assistant Prof. 40 years as on 15th December, 2003. Relaxable by five years in case of reserved category candidates. Upper age limit is not applicable to the employees working in all Agril. Universities in Maharashtra State.

QUALIFICATION:- (A) ASSOCIATE PROFESSOR: Ph.D. in respective subject with 5 years experience in teaching research or extension education, of which two years should be in the cadre of Assistant Professor or its equivalent OR Master's Degree in respective subject with seven years' experience in teaching, research or extension education of which three years' should be in the cadre of Assistant Professor or its equivalent. Evidence of published papers in recognized journals.

(B) ASSISTANT PROFESSOR: Ph.D. in respective subject OR Master's Degree in the respective subject with two years' experience in teaching, research or extension education. Experience earned as Guest Lecturer, hourly basis and or honorary basis will not be treated as valid experience. As regards the posts under the subject of Bio-technology / Microbiology / Molecular Biology both as Associate

Professor and Assistant Professor; basic degree followed by P.G. degree and or Ph.D. in any branch of Life Science / Agril. Science in Bio-technology will be considered and candidate having specialization in Molecular Biology / Plant Transgenics / Genetics Engineering / DNA Fingerprinting / Bio-Process / Plant Tissue-culture Technology as evidence by published research work in the concerned subject will be considered as preferential qualification. As regards the post in the subject of Computer Science specialization in Software Development / Computer Applications / Management will be considered as an preferential qualification and specialization in Hardware / System Analysis / Information Technology will be treated as additional qualification.

OTHER CONDITIONS:- (I) The candidates if appointed will have to acquire requisite knowledge of Computer Application and produce the certificate as required under Government Resolution dated 19th March, 2003. (II) The number of posts and reservation thereof is subject to change. (III) For Physically Handicapped Persons 3 % of advertised posts will be filled in if they are otherwise suitable and have necessary capacity to perform the duties of the post. The upper age limit for such persons is relaxable by five years. (IV) The prescribed educational qualifications are minimum and mere possession of the same does not entitle candidates to be called for interview. Where number of applications received in large the University reserved it's right to short list the candidates to be called for interview by adopting appropriate method. (V) Reservation of Female candidates as per the government policy will be observed. (VI) If other things being equal the preference will be given to Dr. P.D.K.V. Project Affected candidates.

HOW TO APPLY:-

Prescribed application form are available with the office of the Registrar, Dr.Panjabrao Deshmukh Krishi Vidyapeeth, P.O. Krishi Nagar, Akola-444 104 for sale on working days except Sunday / IInd and IVth Saturday and other holidays from 11.00 hrs. to 15.00 hrs from 21-10-2003 in person / by post by sending a self addressed envelop 11" x 5" with postage stamp of Rs.5/- (Rs. Five) and Demand Draft of Rs.500/- (Rs.250/- only in respect of persons belonging to reserved category applying for the reserved posts only) of any Nationalized Bank drawn in favour of Assistant Registrar, G.A.D., Dr.P.D.K.V., Akola. Payment by Money Order / Cash / Cheque / IPOs will not be accepted. The blank application form will be supplied only upto 7-12-2003 during office hours. The application form duly filled in, in all respects should reach to the undersigned **on or before 15th December, 2003.**

Persons applying from outside India; may apply on plain paper giving full details regarding post applied for, their age, qualification etc. Payment of application fees will not be necessary in their cases. However, if such candidates are called for interview, they will have to complete all the above formalities including payment of requisite application fees. The other necessary details will be supplied to the candidates along with the prescribed application form.

The Applicant shall enclose xerox copies of all the testimonials, experience certificates, date of birth certificate, caste certificate with caste validity certificate of the competent authority, The candidates under category NT(C) and OBC will have to produce Non-creamy Layer certificate, certificate of training if any. The applicants already in service shall submit their applications through proper channel along with No Objection Certificate from present employer with advance copy which needs to be reached before closing date. The applications received with incomplete information and documents and received after last date will not be considered under any situation and circumstances. **The University takes no responsibility for postal delay or for loss in transit.** Canvassing in any form will disqualify the candidate.

AKOLA:
DATED: 15th October, 2003.

(Dr. U.M. Patil),
Registrar.

The Council of Education, Kolhapur
C/o. Shahaji Law College, Kolhapur

1090 E, Shahupuri, Near K.D.C.C. Bank Head Office, Kolhapur-416002.
(Affiliated to Shivaji University, Kolhapur)

SPECIAL RECRUITMENT DRIVE

WANTED

Applications are invited from eligible candidates for the following posts.

Designation	*Total Posts*	*Reserved Posts*
Lecturer in LAW	05FT	1 SC (III) 1 ST (III) 1 VJA (III) 2 OBC (III)

NOTE ;

1) Roman figures in the brackets show the number of times the posts have been advertised.
2) A relaxation of 5 % will be provided from 55% to 50% of the marks at the Master's level for ,SC/ ST category. If candidates with 55% of the marks are not available.
3) Reservation for VJNT categories is internally transferable.
4) Reserved candidates who are domiciled outside of Maharashtra State will be treated as Open category candidates.
5) *Reserved candidates are advised to send a copy of their application to The Deputy Registrar, Special Cell, Shivaji University,* Kolhapur-416004.
6) Reservation of female/persons with disabilities will be decided by appointing authorities.
7) Educational Qualifications, Pay Scales & Service Conditions will be as per rules of Shivaji University, Kolhapur. The details regarding educational qualifications will be supplied to the candidates alongwith the application form.
8) Those who are already in service should apply through proper channel.
9) Incomplete application will not be entertained.
10) Apply giving full particulars within a month from the date of publication of this advertisement to the undersigned.

Place : Kolhapur.
Date : 25/10/2003

Chairman.

VELLORE INSTITUTE OF TECHNOLOGY
DEEMED UNIVERSITY
[illegible]

Phone : (0416) 2243091 / 93, 2245070
Fax : (0416) 2243092, 2240411
E-mail : registrar@vit.ac.in Website : www.vit.ac.in

Applications are invited for the following teaching posts in the College of Engineering, Vellore Institute of Technology, Deemed University at Vellore - 632 014.

Teaching Positions

1. PROFESSORS: Rs. 16400-450-20900-500-22400

Ph.D. in Electronics / Electronics and Communication Engineering / Bio-Medical Engineering / Computer Science and Engineering / Information Technology with 10 years experience.

2. ASST. PROFESSORS: Rs. 12000-420-18300

Ph.D. in Electronics / Electronics and Communication Engineering / Bio-Medical Engineering / Computer Science and Engineering / Information Technology with 5 years experience.

Higher salary depending on qualification & experience.

Benefits available: EPF, Group Insurance, Encashment of E.L. etc.

The last date for receipt of completed applications is 30.11.2003.

Registrar

VIT - A place to learn; A chance to grow

University of Kashmir,

Srinagar-190006

Brief Advertisement Notice

Registrar, University of Kashmir invites applications on prescribed form to be received latest by **23-11-2003** for the posts of REGISTRAR, CONTROLLER OF EXAMINATIONS, JOINT REGISTRAR, ADDITIONAL CONTROLLER OF EXAMINATIONS, AND DEPUTY REGISTRAR (Temporary).

Necessary Qualifications, other requirements and APPLICATION FORMS can be downloaded from our website www.kashmiruniversity.net and will be accepted only if accompanied by a Bank Draft for Rs. 300/- favouring Registrar of this University cashable at Srinagar.

Sd/- (Seyyid Aabid Hussain Musawy)
Public Relations Officer

No. PR/KU/670
Dated: 31.10.2003

CLASSIFIED ADVERTISEMENT

Gandhi Education Society's
KRANTIAGRANI G.D. BAPU LAD KALA MAHAVIDYALAYA
KUNDAL, Tal.-Palus,
Dist-Sangli
(Affiliated to Shivaji University, Kolhapur)

WANTED

Applications are invited from eligible candidates for the following posts.

Sr. No.	Designation	Total Posts	Open Post	Reserved Post
A)	**Principal**	1	1	---

Note: 1) The posts advertised are to be filled subject to approval from the Government as per G.R.No.BGT/1097/Pr.Kr.24-A/Fin-19 dated 2nd June 1998 and subsequent Govt. letters.

1) For the post of Principal a minimum of 10 years full time teaching experience in the concerned subject is essential.
2) Roman figure in the bracket shows the No.of times the post have been advertised.
3) *Educational qualifications, Pay scales and service conditions* will be as per rules of Shivaji University, Kolhapur. The details regarding education qualification will be supplied to the applicants on request.
4) Those who are already in service should apply through proper channel
5) Incomplete application will not be considered.
6) Apply within a month from the date of publication of this advertisement (giving full particulars) to the undersigned.

Date :- 27-10-2003
Place :- Kundal

S. D. Lad
SECRETARY
Gandhi Education Society,
Kundal. Distt.-Sangli
(Maharashtra)

Year : 2003-2004

WANTED

Applications are invited from the eligible candidates for the following vacancies in Mahatma Basweshwar Mahavidyalaya, Latur run by Mahatma Basweshwar Shikshan Sanstha Latur. The applications should reach the undersigned within 15 days from the date of publication of this advertisement at the College address.

Sr. No.	Post	No. Posts	Full time	Reservation
01	Principal	One	Full time	Unreserved

Educational Qualification:

1) A Master Degree with at least 55 % of the marks OR it's equivalent grade of B in the 7 point scale with letter grades O, A, B, C, D, E & F
2) Ph. D. or equivalent published work.
3) Total experience of 10/15 years of teaching/research in Universities/Colleges & other institutions of higher education.

Pay Scales :

Pay scales and other allowances as per the Rules of U.G.C., State Govt. and Swami Ramanand Teerth Marathwada University, Nanded.

Note :-

1) Eligible candidates should submit their applications through the proper channel.
2) No. T. A. / D. A. will be paid for attending the interview.
3) Attested xerox copies of S .S .C. certificates, Degree, Mark-sheets, Caste certificates etc. should be attached to the application.
4) The condition of 55 % is not applicable to those candidates who were appointed before 27/02/1979 as a Lecturer.

Application complete in all respect should reach the following address.

To,
The President,
Mahatma Basweshwar Shikshan Sanstha
C/o Deshikendra Vidyalaya,
Latur. 413512, Dist. Latur (M.S.)

Sd/-
PRESIDENT

CORPORATE MANAGEMENT OF SNDP YOGAM COLLEGES
P.B. No. 512, Kollam

WANTED

Applications are invited for appointment as Lecturers in the following subjects in the Aided colleges under the S.N.D.P.Yogam affiliated to the M.G.University and University of Calicut.

1) S.A.S S.N.D.P Yogam College
   at Konni (Affiliated to M.G. Uty.)]
   - Lecturers in Bio-Technology
2) R.S.M S.N.D.P Yogam College
   at Koyilandi (Affiliated to Uty. of Calicut)]
   - Lecturers in Business Management

Age, qualification etc., are as per Govt./University/UGC norms.

Application form can be had from the Office of the S.N.D.P. Yogam during office hours at the cost of Rs. 100/- in person and Rs. 125/- by post. The filled in application should reach the undersigned within 30 days from the date of publication of this notification.

MANAGER
Corporate Management of
S.N.D.P. Yogam Colleges, Kollam

Kollam
28-10-2003

SARDAR PATEL UNIVERSITY
VALLABH VIDYANAGAR
NOTIFICATION NO.EST/5 (2003-04)

Registrar, Sardar Patel University, Vallabh Vidyanagar-388120 invites applications in the prescribed form for the following posts:

Name of Posts	Reserved for				Scale of Pay
	SC	ST	Baxl	Gen.	
TEACHING POSTS					
Professor					
(1) USIC	-	-	-	01	16400-22400
Reader					
(1) Chemistry (Physical Chemistry)	-	-	-	01	12000-18300
(2) Economics	-	-	-	03	12000-18300
(3) Hindi	-	-	-	01	12000-18300
Lecturer					
1. Chemistry (In the following branches)	-	-	-	-	8000-13500
(i) Physical Chemistry	-	-	-	01	
(ii) Industrial Polymer	-	-	-	01	
(iii) Analytical Chemistry	01	01	-	-	
2 Mathematics	01	-	-	01	8000-13500
3. Economics	-	01	-	01	8000-13500
4 Political Science	-	01	-	01	8000-13500
5. Psychology	01	01	-	-	8000-13500
6 English	-	-	01	-	8000-13500
7 For M.B.Patel College of Education (In the following branches)					8000-13500
(i) M.A. (Sanskrit) M.Ed.	-	-	01	-	
(ii) M.Sc. (Maths/Chemistry/Physics) M.Ed.	01	-	-	01	
(iii) M.A. (Economics) M.Ed.	-	01	-		
(iv) M.A. (English) M.Ed.	01	-	-	01	
(v) M A. (Hindi) (M.Ed.)	-	01	-	-	
8. Gujarati	-	-	-	01	
9 Hindi	-	-	-	01	
10 M.Lib.	-	-	-	01	

All the posts carry benefits of D.A., G.P.F., Gratuity and Pension as per University rules.

The prescribed application form can be had from the University Office on payment of Rs. 75/-for Teaching Post by cash or Postal Order in favour of the REGISTRAR, SARDAR PATEL UNIVERSITY.Details of qualifications and job requirement will be furnished alongwith the application forms.

Only one copy of each the marksheets be attached with the first copy of the application form. The last date of receipt of application by the University is **24/11/2003**.

Applicants who are in service should apply through their present employers. Candidate called for interview shall be required to appear for interview at their own cost.

No.B/S/2/
VALLABH VIDYANAGAR
Date: 24/10/2003

REGISTRAR

WANTED

Applications are invited from the eligible candidates for the following vacancies in Toshniwal Arts and Commerce College, Sengaon run by **Shri. Gajanan Shikshan Prasrak Mandal**, Yelderi (Camp) Tq. Jintor, Dist. Parbhani.

The applications should reach the undersigned within 15 days from the date of publication of this advertisement at the College address.

Sr. No.	Post	No. Posts	Full time	Reservation
01	Principal	One	Full time	Unreserved

Educational Qualification:

1) A Master Degree with at least 55 % of the marks OR it's equivalent grade of B in the 7 point scale with letter grades O, A, B, C, D, E & F
2) Ph. D. or equivalent published work.
3) Total experience of 10/15 years of teaching/research in Universities/Colleges & other institutions of higher education.

Pay Scales :

Pay scales and other allowances as per the Rules of U.G.C., State Govt. and Swami Ramanand Teerth Marathwada University, Nanded.

Note :-

1) Eligible candidates should submit their applications through the proper channel.
2) No. T.A. / D.A. will be paid for attending the interview
3) Attested xerox copies of S .S .C. certificates, Degree, Mark-sheets, Caste Certificates etc. should be attached to the application.
4) The condition of 55 % is not applicable to those candidates who were appointed before 27/02/1979 as a Lecturer Application complete in all respect should reach to the following address.

To,
The Principal,
Toshniwal Arts & Commerce College,
Seagaon, Tq. Sengaon, Distt. Hingoli 431542

Shri.U.M. Shelke
SECRETARY

Shri. B.R Toshniwal
PRESIDENT

INVITATION TO AUTHORS

Authors are invited to contribute articles on contemporary issues in higher education in general and Indian higher education in particular for publication in the 'University News'. The articles may be sent as an e-mail attachment in MS WORD to : *aiu@del2.vsnl.net.in* or printed / typed copy in duplicate along with floppy by post at the following address :

The Editor
University News
Association of Indian Universities
AIU House, 16 Comrade Indrajit Gupta Marg
(Kotla Marg), New Delhi 110 002

ANNAMALAI UNIVERSITY

DIRECTORATE OF DISTANCE EDUCATION

Annamalainagar - 608 002

PROGRAMMES OFFERED DURING 2003-2004

www.annamalaiuniversity.ac.in
E-mail
dde@annamalaiuniversity.ac.in

✆: 04144 - 238610
04144 - 237160
Fax: 04144-238987

REGULAR STREAM

FOUNDATION PROGRAMMES: I Year* and II Year*

UNDER-GRADUATE PROGRAMMES: B.A. in History*, Sociology*, Economics*, English, Tamil, Political Science*, and Population Studies*. B.Lit. (Tamil), B.B.A., B.Com.*, B.Sc. (Psychology), B.Sc. (Mathematics), B.Sc. (Applied Chemistry), B.Sc. (Electronic Science), B.M.M. (Marketing Management)* *B.Com. Computer Applications, B.B.A. Computer* Applications, B.Sc. Mathematics with Computer Applications

POST GRADUATE PROGRAMMES M.B.A. (Approved by AICTE)

M.A. in Tamil, *English, Economics**, *History**, *Sociology**, *Population* Studies*, Political Science*, Public Administration* and Linguistics*, M.Sc. in Applied Psychology, Mathematics, Physics, Chemistry, Zoology, Botany, Bio Informatics and Electronic Science, M.Com.*, M.Com. (Co-operative Management)*, M.Com. (Banking & Insurance Management)*, M.F.M. (Financial Management), M.M.M. (Marketing Management), M.H.R.M. (Human Resource Management) and M.Com. Computer Applications

LAW PROGRAMMES M.L. (Master of Law), B.G.L., B.A.L., Diploma in Labour Laws with Administrative Law and Diploma in Law of Taxation

* OFFERED IN ENGLISH & TAMIL MEDIUM

LIBRARY AND INFORMATION SCIENCE PROGRAMMES: M.L.I.S., B.L.I.S., C.L.I.S*.

P.G. DIPLOMA PROGRAMMES in Business Administration, Personnel Management and Industrial Relations, Marketing Management, Financial Management, Tourism Management, Advertising, *Public Relations, Design* and Construction of Concrete Structures, Co-operative Management, Guidance and Counselling, Petroleum Exploration, Marine Environmental Pollution and Management, Aquaculture Management, Marine Microbial Technology, Hospital Management and Sociology of Health.

DIPLOMA PROGRAMMES in Materials Management, Production Management, Construction Management, Chemical Process Instrumentation and Control, Maintenance Engg. & Management, Industrial Safety, Industrial Pollution and Control, Industrial Hygiene, Concrete Technology and Design of Concrete Structures, Conflict Management, Petroleum Refining Engineering and Industrial Biotechnology.

CERTIFICATE PROGRAMMES in Automobile Technology*, Offset Machine Printing* and Office Management*

I. T. PROGRAMMES

P.G. PROGRAMMES

M.C.A., M.C.A. (Lateral Entry), M.Sc. (I.T.), M.Sc. Software Engineering, M.Sc. Computer Science & M.Sc. Computer Science (Later Entry)

U.G. PROGRAMMES

B.C.A. (Bachelor of Computer Applications), B.Sc. Computer Science

DUAL DEGREE SYSTEM (4 YEARS)

B.A. in Sociology, Economics, B.B.A., B.Com., B.Sc. in Mathematics, Applied Chemistry, Electronic Science and Psychology } **with Second Degree on B.Sc. Computer Science or Information Technology or Visual Communication**

B.Sc. (Computer Science), B.Sc. (Visual Communication), B.Sc. (Information Technology), B.Sc. (Visual Communication), B.Sc. (Visual Communication), B.Sc. (Computer Science) or B.Sc. (Information Technology)

SHORT TERM I.T. PROGRAMMES (6 Weeks - 12 Weeks)

LINUX, VISUAL BASIC, C, C++, ASP, ADMINISTRATIVE TOOLS, UNIX, DEVELOPER 2000, WEB DEVELOPMENT TOOLS, ORACLE 8i, SQL SERVER 7.0, EJB, WINDOWS 2000 SERVER, E-COMMERCE, JSP, JAVA, NETWORK ADMINISTRATION, ORACLE DBA, SQL DBA

COMBINATION PROGRAMMES

UNIX, C, C++ (OR) ORACLE + VISUAL BASIC (OR) SQL SERVER + VISUAL BASIC (OR) ORACLE + D2K (OR) ASP + WEB DEVELOPMENT TOOLS, EJB AND JSP

OTHER I.T. ORIENTED PROGRAMMES

ADVANCED DIPLOMA PROGRAMMES Mechanical CAAD, Architectural CAAD, Client Server Computing

DIPLOMA PROGRAMMES CAAD and Computer Hardware

CERTIFICATE PROGRAMMES CAAD-Draughtsman, AUTOCAAD-2000.

COST OF APPLICATIONS	in Person	by Post
All P.G. (I.T.) Programmes	Rs. 250/-	Rs. 280/-
DDS/All U.G. (IT)/Short term (IT) Programmes	Rs. 100/-	Rs. 120/-
All Other Programmes	Rs. 60/-	Rs. 80/-

IMPORTANT DATES		
	Last date for issue of application form	29.11.2003
	Last date for receipt of filled in applications	29.11.2003

STUDY CENTRES IN TAMIL NADU. (1) **CHENNAI - EGMORE.** ✆ 044 28555010, 28554003, Fax No.: 044-28514823; (2) **CHENNAI – CHROMEPET:** ✆ 044 22388035; (3) **CHENNAI - AMBATTUR** ✆ 044 26572169; (4) **COIMBATORE.** ✆. 0422 2234406; (5) **DHARMAPURI:** ✆ 04342-270234; (6) **DINDIGUL** ✆ 0451 2424211; (7) **ERODE:** ✆ 0424 2214787; (8) **HOSUR.** ✆ 04344 241254; (9) **KANCHEEPURAM:** ✆ 04112-235950; (10) **KARAIKAL:** ✆ 04368 221233; (11) **KARAIKUDI** ✆ 04565 226412; (12) **KRISHNAGIRI:** ✆ 04343-238373; (13) **MADURAI:** ✆ 0452-2628327; (14) **NAGERCOIL:** ✆ 04652 230501; (15) **NAMAKKAL** ✆ 04286 233077; (16) **OOTY** ✆ 0423 2444414; (17) **PONDICHERRY:** ✆ 0413 2202000; (18) **PUDUKOTTAI:** ✆ 04322 224824; (19) **SALEM** ✆ 0427 2451666; (20) **TANJORE:** ✆ 04362 278986; (21) **THENI:** ✆ 04546-265420; (22) **THIRUVANNAMALAI:** ✆ 04175-222687; (23) **THIRUVARUR** ✆ 04366 244221; (24) **TIRUNELVELI** ✆ 0462-2331288; (25) **TRICHY:** ✆ 0431-2741950; (26) **TUTICORIN:** ✆ 0461-2326668; (27) **VELLORE** ✆ 0416 2227647; (28) **VILLUPURAM.** ✆ 04146 225550

STUDY CENTRES OTHER THAN TAMIL NADU. (29) **BANGALORE** ✆ 080-6564926; (30) **CALICUT:** ✆ 0495-2744877; (31) **CHANDIGARH:** ✆ 0172 612822; (32) **ERNAKULAM** ✆ 0484 2376105; (33) **HYDERABAD.** ✆ 040 27661186; (34) **JAIPUR:** ✆ 0141-2701041; (35) **KOLKATA:** ✆ 033-24667215; (36) **LUCKNOW** ✆ 0522 2343230; (37) **MUMBAI** ✆ 022 55550339; (38) **NEW DELHI.** ✆ 011-29959082, 28957638; (39) **THIRUVANANTHAPURAM** ✆ 0471 2325141; (40) **TIRUPATHI.** ✆ 0877 2260374; (41) **VIJAYAWADA:** ✆ 0866-2555755; (42) **VISAKHAPATTINAM:** ✆ 0891 2540166

For 24-Hour Helpline ✆: 04144 - 237356, 237357, 237358, 237359

SALIENT FEATURES:

- 25 Years of rich experience in Distance Education
- Well equipped Study Centres spread over India and directly run by Annamalai University
- Study materials for all programmes are prepared and reviewed by Expert Committee of Annamalai University.
- Teaching Staff of Annamalai University teach at all Personal Contact Programmes in addition to experienced and qualified faculty drawn from other Institutions
- Audio Visual components to make learning more effective and interesting
- Library with latest books at all Study Centres.
- Good laboratory facilities for science students
- Continual assessment of students through Response Sheets and Assignments.
- Conduct of examinations and declaration of results on time.
- 24-hour helpline for enquiries through Digital Voice Information System (DVIS) in different languages.

Posted at NDPSO on Tuesday/Wednesday every week

UNIVERSITY NEWS 41 (45) November 10-16, 2003 Regd. No. R.N. 7188/63 Postal Regd. No. DL-11106/2003-05

NITIE

NATIONAL INSTITUTE OF INDUSTRIAL ENGINEERING

(Under the Ministry of HRD, Government of India)

Announces Entrance Test for Post Graduate Programmes 2004-2006

THE NATIONAL INSTITUTE OF INDUSTRIAL ENGINEERING (NITIE) invites applications for its two-year Post Graduate Diploma in Industrial Management (PGDIM) and Post Graduate Diploma in Industrial Safety & Environmental Management (PGDISEM) programmes. The two programmes each offer a unique blend of management and technology.

The PGDIM programme develops versatile managers through a holistic orientation in Marketing, Finance, HRM, Operations, Logistics, Supply Chain Management, Systems, and Technology Management. This programme has been ranked among the top five business management programmes in the country – 4th by Business Today, August 4, 2002 and 5th by Business India, October 14, 2002.

The PGDISEM programme *aims at developing multitalented management professionals in* Environmental and Safety Management. This cross-functional programme also includes education in modern operational management concepts and tools.

Both programmes are recognized by AICTE and are two-year full time and residential. PGDIM and PGDISEM students learn sustainable practices of business management spanning operations, finance, economic and human resource angles and do an industry-based two–month summer project and a four-month industry internship before their completion.

PLACEMENT 100% placement record since their inception. NITIE Management graduates are sought after by leading multinational and Indian companies for their cross-functional expertise.

ELIGIBILITY & SELECTION Bachelor's degree in any branch of Engineering or Technology or *equivalent with first-division (55% in case of SC/ST candidates). Students fulfilling this requirement by* June 30th, 2004 can also apply. Selection will be through the All India Written Test. Short listed candidates will then be called for Group Discussions and Personal Interviews at NITIE, Mumbai.

IMPORTANT DATES

Issue of Brochure & Application Forms	**October 13 to December 19 2003**
Last date for receipt of completed application	**December 19 2003**
Date of Examination	**January 18 2004 (Sunday)**
Group Discussion and Personal Interview	**March 2nd week, 2004**
Classes begin	**July, 2004**

TEST CENTRES Allahabad, Bangalore, Bhubaneshwar, Chandigarh, Chennai, Ernakulam, Guwahati, Hyderabad, Indore, Jaipur, Jamshedpur, Kolkata, Lucknow, Mumbai, Nagpur, New Delhi, Pune and Vadodara.

Brochure & Application Form for the PGDIM / PGDISEM Test may be obtained from the address shown below by enclosing a DEMAND DRAFT for Rs. 1000/- (Rs. 500/- in case of SC/ST candidates with attested certificate of caste), drawn in favour of 'NITIE MUMBAI' and payable at SBI, Vihar Lake, Mumbai – 400 087 with four self-addressed stickers to : ASSISTANT REGISTRAR (ACADEMIC), NITIE, Vihar Lake, P.O. NITIE, Mumbai – 400 087. Tel. (022) 2857 33 71 : Fax : (022) 2857 32 51, e-mail : admissions@nitie. edu

Application form may be downloaded also from the institute website : www.nitie.edu

NITIE will not be responsible for any postal delay.

Published by Dr. Sistla Rama Devi Pani, on behalf of the Association of Indian Universities, AIU House, 16 Comrade Indrajit Gupta Marg (Kotla Marg), New Delhi-110 002. Grams: ASINDU. Phones: 23230059, 23232429. Fax: 011-23232131. E-Mail : aiu@del2.vsnl.net.in, Website : http://www.aiuweb.org